

SMART IDesigner

User Manual



Table of Contents

1	Program Introduction-----	12
1.1	Overview-----	12
2	Printer-----	13
2.1	Printer Setup -----	13
2.1.1	Orientation-----	13
2.1.2	Side-----	14
2.2	Print-----	15
2.2.1	Driver Print -----	15
2.2.2	DLL Print -----	15
3	How to Use the Program-----	16
3.1	Create Project -----	16
3.1.1	Create Template Project -----	16
3.1.2	Create New Project -----	18
3.2	Design -----	19
3.2.1	Object -----	19
3.2.2	Panel -----	21
3.2.3	Background -----	21
3.3	Card Data -----	22
3.3.1	Create CSD Field -----	22
3.3.2	Input-----	23
3.3.3	Preview-----	24
3.3.4	Edit Image -----	24
3.3.5	Card Issuing -----	25
4	Data Import From/Export To-----	26
4.1	Import From-----	26

4.1.1	Import From Excel	26
4.1.2	Import From DB	31
4.1.3	Import From TXT, CSV	32
4.2	Export To	33
4.2.1	Export To Excel	33
4.2.2	Export To DB	34
5	Encoding	35
5.1	MS Encoding	35
5.1.1	Toggle Cell Grouping	35
5.1.2	Set Whole Field	36
5.1.3	Set Field + Text	37
5.1.4	Set Multiple Fields	37
5.2	Contactless Card Encoding	38
5.2.1	Contactless Card Encoding	38
5.2.2	User-Defined Contactless Card Encoding	40
5.3	Contact Card Encoding	41
5.3.1	Contact Encoding	42
5.3.2	User-Defined Contact Card Encoding	43
6	Tab and Feature Descriptions	46
6.1	File Tab	46
6.1.1	New Project/Template/Open/Save/Save As	46
6.1.2	Print Setup/Print/Database/Recent Project/Print History/Exit	48
6.2	Home Tab	49
6.2.1	Project	49
6.2.2	Font	50
6.2.3	Paragraph	51
6.2.4	Drawing	52

6.2.5	Panel	55
6.2.6	Invert	56
6.2.7	Page	56
6.3	Drawing Tab	57
6.3.1	Font	57
6.3.2	Paragraph	57
6.3.3	Drawing	57
6.3.4	Align	57
6.4	Edit Tab	58
6.4.1	Undo/Redo	58
6.4.2	Clipboard	58
6.4.3	Selection	59
6.4.4	Image	59
6.4.5	Panel	61
6.4.6	Invert	61
6.5	View Tab	61
6.5.1	View	61
6.5.2	Zoom	62
6.5.3	Panel	63
6.5.4	Page	63
6.6	Option Tab	63
6.6.1	Option	63
6.6.2	Field	64
6.6.3	Size	65
6.6.4	Config	65
6.6.5	Laser Engraver	66
6.6.6	Language	69

6.7	Database Tab	70
6.7.1	Connection	70
6.7.2	Setting	71
6.7.3	Security	72
6.7.4	Print	72
6.7.5	Mark	73
6.7.6	Display	73
6.7.7	Search	74
6.7.8	Card	75
6.8	Plugin Tab	76
6.8.1	Image Capture	76
6.8.2	Magnetic Card Encoding	77
6.8.3	Contact/Contactless Card Encoding	77
6.8.4	User-Defined Card Encoding	78
6.9	Help Tab	79
6.9.1	Help	79
7	Docking Panel	80
7.1	Object Properties	80
7.1.1	Base Category	81
7.1.2	Extended Category – Round Rectangle	82
7.1.3	Extended Category – Image	83
7.1.4	Extended Category – Text	85
7.1.5	Extended Category – Barcode	86
8	Additional	88
8.1	Backup	88
9	Plugin	89
9.1	Overview	89

9.2	Plugin Development	89
9.2.1	Parameters and Return Values	89
9.2.2	Structure	91
9.2.3	Plugin Class Description	94
9.3	Plugin Example	97
9.3.1	CLASS_USER_IMAGEACQUISITION Sample	97
9.3.2	CLASS_CONTACT_CARD, CLASS_CONTACTLESS_CARD	97

List of Figures

<Figure> 1 - Printer setup.....	13
<Figure> 2 – Orientation setting.....	13
<Figure> 3 – Printer Document Properties.....	14
<Figure> 4 – Page Button Active/Inactive.....	14
<Figure> 5 – Print Button On Home Tab.....	15
<Figure> 6 - Print Button On Database Tab.....	15
<Figure> 7 – Start Smart IDesigner.....	16
<Figure> 8 - Template Wizard : Type setting	16
<Figure> 9 - Template Wizard : Encoding Setting.....	17
<Figure> 10 - Template Wizard : Design Setting.....	17
<Figure> 11 - Template Wizard : Finish.....	18
<Figure> 12 - Create New Project.....	18
<Figure> 13 - Inside Project Folder	19
<Figure> 14 – Drawing Menu On Home Tab.....	19
<Figure> 15 – Card Design	20
<Figure> 16 – Object Property Window	20
<Figure> 17 – Color Panel Object & Black Panel Object.....	21
<Figure> 18 – Overlay Panel Object & Fluorescent Panel Object.....	21
<Figure> 19 – Option Menu On Option Tab.....	21
<Figure> 20 – Background Setting Window	22
<Figure> 21 – Create Card Data Field	22
<Figure> 22 – Card Database & Ribbon Menu.....	23
<Figure> 23 – Input Card Data	23
<Figure> 24 - Preview	24
<Figure> 25 – Edit Image Window.....	24

<Figure> 26 – Printer Selection Window.....	25
<Figure> 27 – Data Verification Window Before Card Issuance	25
<Figure> 28 - Import from in the Database Menu On File Tab.....	26
<Figure> 29 - Import From Excel Window	27
<Figure> 30 - Image File Located in the Project Folder	27
<Figure> 31 - File Name Written in the Excel File (Located in the Project Folder).....	28
<Figure> 32 - Image File Located in the Parent Folder of the Project Folder.....	28
<Figure> 33 - Image File Path Written in the Excel File.....	29
<Figure> 34 - File name written in Excel (not existing in the project folder)	29
<Figure> 35 - Image Path Setting Popup.....	29
<Figure> 36 - Folder Selection Window.....	30
<Figure> 37 – Cell Format Window.....	30
<Figure> 38 - Formatted Cell Display.....	31
<Figure> 39 - Database Import Window.....	31
<Figure> 40 - Import From Text Window.....	32
<Figure> 41 - Export To in the Database Menu On the File Tab.....	33
<Figure> 42 – Export To Excel Window	33
<Figure> 43 – Folder where exported images are saved	34
<Figure> 44 – Export To DB Window	34
<Figure> 45 - Magnetic Field Setting in the Fields Menu On Plugin Tab.....	35
<Figure> 46 - Cell Grouping in the Magnetic Field Settings Window	35
<Figure> 47 - Input Field Configuration in the Magnetic Field Window	36
<Figure> 48 – Screen where all cells of the track are linked with fields.....	36
<Figure> 49 - Screen where fields and text are set together on the track.....	37
<Figure> 50 - Screen with multiple fields set on the track	37
<Figure> 51 – Contactless Card Encoding Menu On Plugin Tab.....	38
<Figure> 52 - contactless card encoding In The Contact/Contactless Card Encoding area.....	38

<Figure> 53 - Default Encoding Field Settings Window: Contactless Card Encoding Mode	39
<Figure> 54 – User-Defined Contactless Card Encoding in the User-Defined Card Encoding Area	40
<Figure> 55 – User Encoding Field Settings Window: Contactless Card Encoding Mode	41
<Figure> 56 - Contact Card Encoding Menu On Plugin Tab.....	41
<Figure> 57 - contact card encoding In The Contact/Contactless Card Encoding area	42
<Figure> 58 - Contact Card Encoding Guide Popup	42
<Figure> 59 - Default Encoding Field Settings Window: Contact Card Encoding Mode	43
<Figure> 60 - User-Defined Contact Card Encoding in the User-Defined Card Encoding Area	43
<Figure> 61 - User Encoding Field Settings Window: Contact Card Encoding Mode	44
<Figure> 62 - Smart IDesigner Tab & Ribbon Bar	46
<Figure> 63 - File Tab Menu Collection 1	46
<Figure> 64 - File Tab Menu Collection 2	48
<Figure> 65 – Project Menu On Home Tab.....	49
<Figure> 66 – Font Menu On Home Tab.....	50
<Figure> 67 – Paragraph Menu On home Tab	51
<Figure> 68 – Drawing Menu On Home Tab.....	52
<Figure> 69 – Alignment Menu On Home Tab	53
<Figure> 70 – Panel Menu ON Home Tab.....	55
<Figure> 71 - Invert Menu ON Home Tab.....	56
<Figure> 72 – Page Menu On home Tab	56
<Figure> 73 – Font Menu On Drawing Tab.....	57
<Figure> 74 – Paragraph Menu On Drawing Tab.....	57
<Figure> 75 - Drawing Menu On Drawing Tab	57
<Figure> 76 - Align Menu On Drawing Tab.....	57
<Figure> 77 – Undo/Redo Menu On Edit Tab.....	58
<Figure> 78 - Clipboard menu On Edit Tab.....	58
<Figure> 79 – Selection Menu On Edit Tab.....	59

<Figure> 80 – Image Menu On Edit Tab.....	59
<Figure> 81 – Panel Menu On Edit Tab	61
<Figure> 82 – Inver Menu On Edit Tab	61
<Figure> 83 – View Menu On View Tab.....	61
<Figure> 84 – Status Bar.....	62
<Figure> 85 – Zoom Menu On View Tab	62
<Figure> 86 – Panel Menu On View	63
<Figure> 87 – Page Menu On View	63
<Figure> 88 – Option Menu On Option Tab.....	63
<Figure> 89 – Field Menu On option Tab.....	64
<Figure> 90 - Input Field Setting Window.....	64
<Figure> 91 - Size Menu On option Tab.....	65
<Figure> 92 - Config Menu On option Tab.....	65
<Figure> 93 - Laser Engraver Menu On Option Tab	66
<Figure> 94 – Laser Config Window.....	67
<Figure> 95 - Language Menu On Option Tab	69
<Figure> 96 – Connection Menu On Database Tab	70
<Figure> 97 – DB Management Window.....	70
<Figure> 98 – Setting Menu On Database Tab.....	71
<Figure> 99– Manage Field List Window.....	71
<Figure> 100 – Security Menu On Database Tab	72
<Figure> 101 – Print Menu On Database Tab	72
<Figure> 102 - Print Queue Window.....	72
<Figure> 103 - Mark Menu On Database Tab.....	73
<Figure> 104 – Display Menu On Database Tab.....	73
<Figure> 105 – Search Menu On Database Tab.....	74
<Figure> 106 – Search String Window.....	74

<Figure> 107 – Search Position	74
<Figure> 108 – Card Menu On Database tab.....	75
<Figure> 109 – Image Capture Menu On Plugin Tab	76
<Figure> 110 – List Of Image Capture Plugin.....	76
<Figure> 111 - Image Capture Plugin Usage Screen	76
<Figure> 112 – Magnetic Card Encoding Menu On Plugin Tab	77
<Figure> 113 – Contact/Contact less Card Encoding Menu On Plugin Tab.....	77
<Figure> 114 – User-Defined Card Encoding Menu On Plugin Tab	78
<Figure> 115 – Help Menu On Help Tab.....	79
<Figure> 116 - Object Properties	80
<Figure> 117 - Base Category.....	81
<Figure> 118 - Extended Category: Round Rectangle.....	82
<Figure> 119 - Extended Category : Image.....	83
<Figure> 120 - Extended Category : Text	85
<Figure> 121 - Extended Category : Barcode	86
<Figure> 122 – Backup Notification Popup	88
<Figure> 123 - Backup File Selection Window.....	88

1 Program Introduction

1.1 Overview

SMART IDesigner provides the best solution to make a membership card and an identification card. SMART IDesigner allows you to design and issue a desired card conveniently. It is designed to be easy to use with simple essential features, but also to allow advanced users to utilize various detailed features.

SMART IDesigner allows you to design cards or easily issue and manage large numbers of cards using the internal database. SMART IDesigner saves card design files in directories by project. The project directory contains the configuration file CSP, the design file CSD, and the database file SQLite DB and files temporarily used within the program are saved in the Backup, CaptureFiles, and ImageTmp folders.

SMART IDesigner has the following features.

- Card designs for printing on CR-80 card are easily designed with images, texts and barcodes (1D, 2D).
- Easy card design
- Desired panel objects (Color, Resin Black, Overlay and UV) can be set to be printed.
- For portrait photos, it can recognize human faces in the portrait photo and automatically adjust the size and position of the photo so that only the human face is displayed in a defined box.
- Use plugins to take input from many types of input devices, such as cameras, sign pads, etc.
- Encode magnetic cards, contact smart cards, contactless smart cards, etc. using plugins.
- Issue large numbers of cards continuously using a database.
- Import external data or export internal data.

SMART IDesigner is the program which is provided with SMART ID Card Printer. This can be used only with SMART ID Card Printer supplied by IDP Corp., Ltd.

For stable operation, Windows 7, 8, 10 and 11 Pentium 1GHz with 1GB of RAM or higher are recommended.

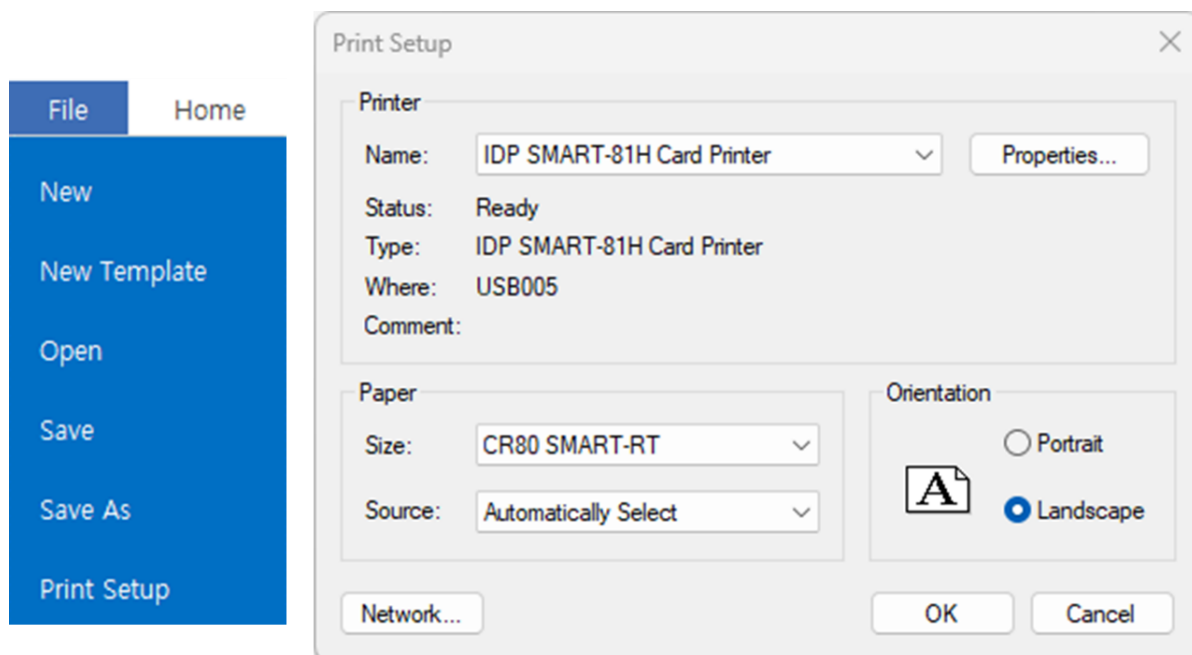
This program is not for sale. It is only for the customers of SMART ID Card Printer. No part of this program may be reproduced and reused by any way without the permission or the prior written agreement of IDP Corp. Ltd. We have no liability for any problem through the dissemination. IDP Corp. Ltd. All rights reserved.

2 Printer

2.1 Printer Setup

SMART IDesigner is only for the customers of SMART ID Card Printer.

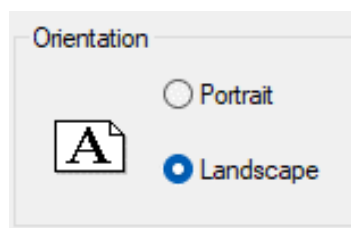
Depending on the type of SMART ID Card printer currently set, some buttons in the program may be activated or deactivated. Therefore, to use some functions, you need to change the options in the print settings.



<FIGURE> 1 - PRINTER SETUP

Menu location: File-Print Setup

2.1.1 Orientation

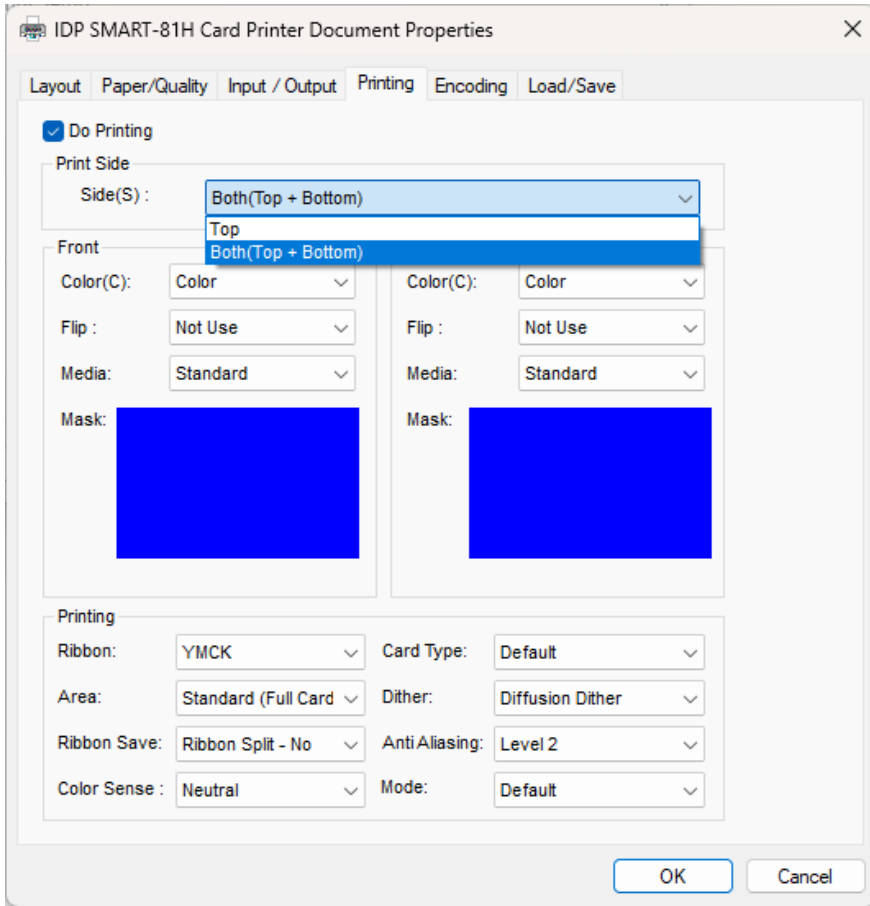


<FIGURE> 2 – ORIENTATION SETTING

The default card design is landscape. It can be changed to a portrait design card in the "Orientation" section of the Print Setup window.

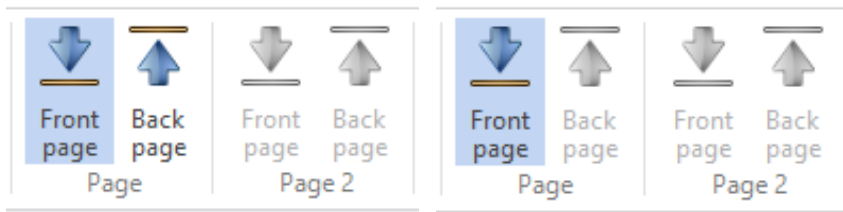
2.1.2 Side

Depending on the printer model, double-sided printing is possible. To set single-sided/double-sided, click "Properties" in the Print Setup window to open the Printer Document Properties window.



<FIGURE> 3 – PRINTER DOCUMENT PROPERTIES

In the "Printing tab" of the printer document properties window, change the Print Side section to "Both(Top + Bottom)" and click OK to change to double-sided printing mode.



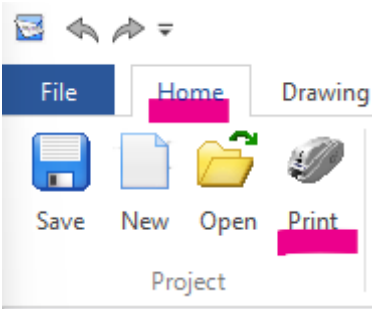
<FIGURE> 4 – PAGE BUTTON ACTIVE/INACTIVE

You can check the current page settings status in the Page menu at the top of the Home Tab. The second "Page Set" case is enabled when using a SMART-70 multi-printer combination.

2.2 Print

SMART IDesigner has 2 ways to print: using the print button on the "Home tab" (Driver Print) and printing from the "Database tab" (DLL Print).

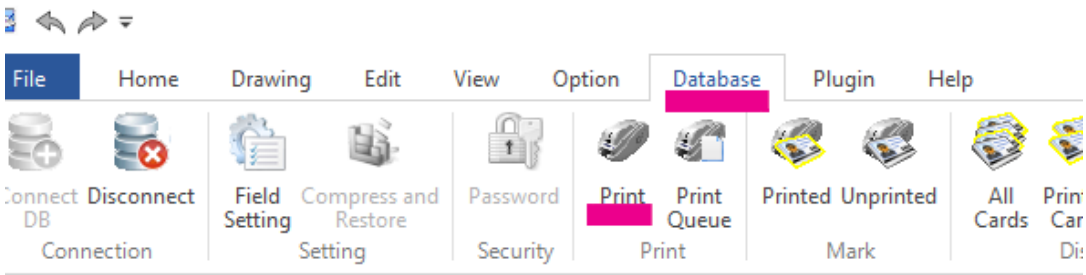
2.2.1 Driver Print



<FIGURE> 5 – PRINT BUTTON ON HOME TAB

When you click the Print button on the "Home tab" or "File tab," printing will be done via the installed printer driver. You can directly print cards designed in SMART IDesigner.

2.2.2 DLL Print



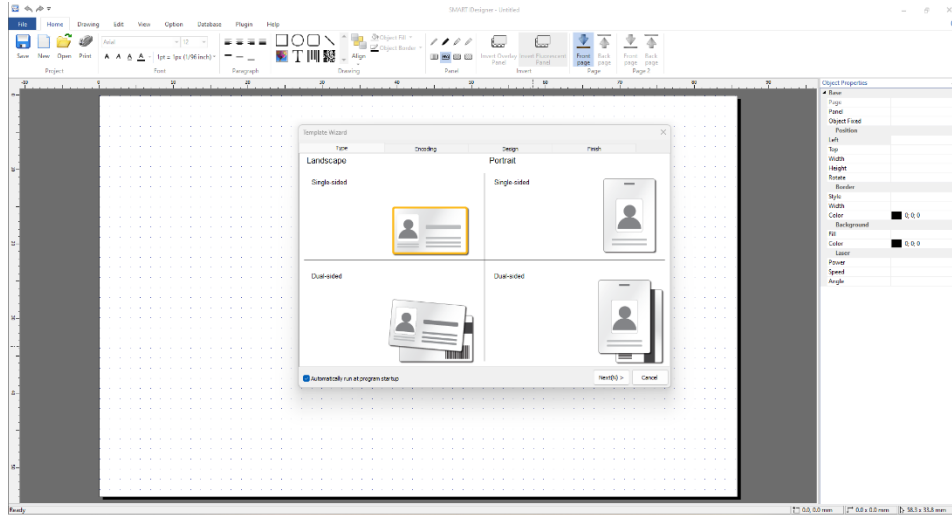
<FIGURE> 6 - PRINT BUTTON ON DATABASE TAB

On the "Database tab", the internal DLL is used for printing. When designing cards, applying database fields allows you to easily print large quantities of cards by linking information entered into the database.

3 How to Use the Program

3.1 Create Project

SMART IDesigner provides a template wizard that allows you to create projects using pre-designed templates. You can conveniently start designing by selecting the design type you want in order through the template wizard.



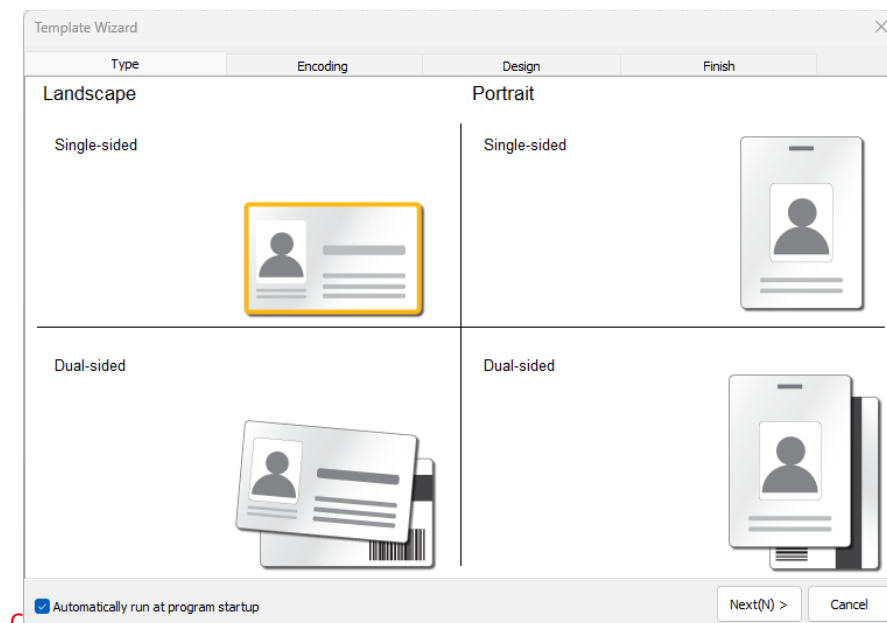
<FIGURE> 7 – START SMART IDESIGNER

The template wizard is progressed as the below steps.

3.1.1 Create Template Project

1) Type Setting

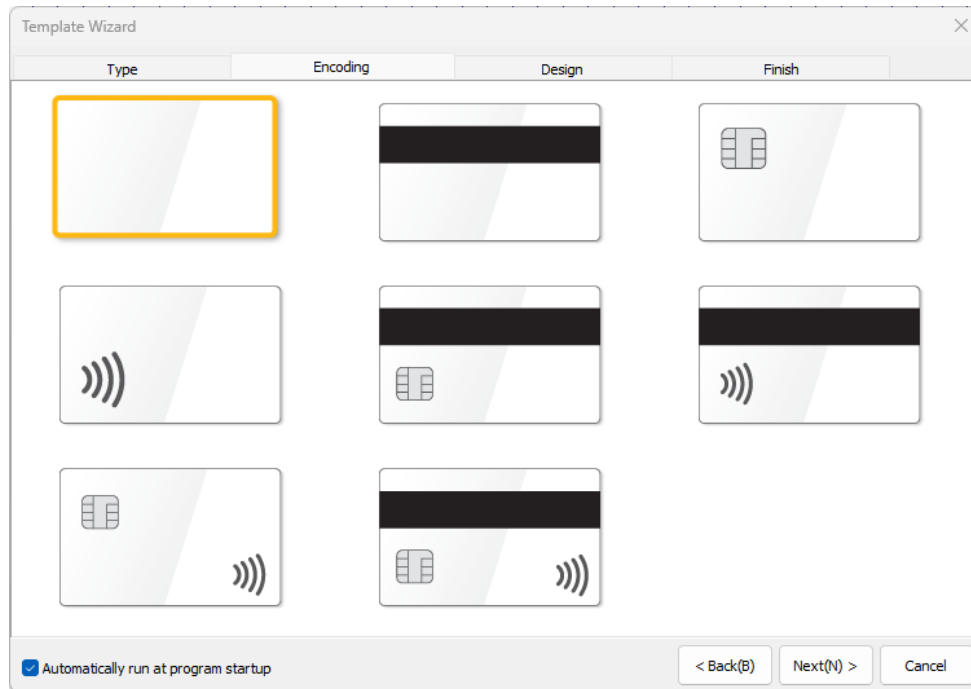
Select the orientation (Landscape/Portrait) of a card and surface (Single-sided/Dual-sided) to print. Then click 'Next' button.



<FIGURE> 8 - TEMPLATE WIZARD : TYPE SETTING

2) Encoding Setting

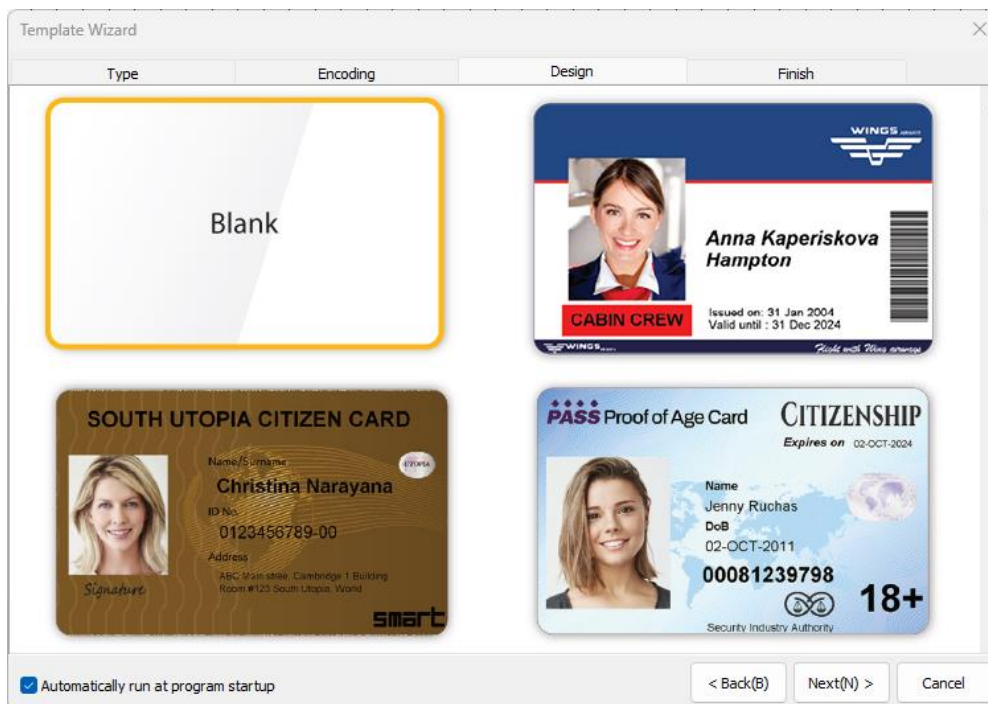
Select an encoding way into a card. SMART IDesigner can encode magnetic stripe, contact smart card, contactless smart card. For encoding, the selected encoder has to be installed in the printer and use the card that encoding is available.



<FIGURE> 9 - TEMPLATE WIZARD : ENCODING SETTING

3) Design

Select one of the predesigned image and project or 'Blank' card if the user wants his own design.



<FIGURE> 10 - TEMPLATE WIZARD : DESIGN SETTING

4) Finish

Input a Project name and select the location to save it, then click "Confirm" button.

The screenshot shows the 'Template Wizard' dialog box with the 'Finish' tab selected. The 'Project Settings' section contains the following fields:

- Project Name : [Empty text box]
- Project Location : C:\Users\WIDP_SW_Mobile\Documents\SMART IDesigner\ [Browse button (...)]
- Encoding Type : None
- Printer Type : IDP SMART-30 Card Printer [Dropdown arrow]
- Print Side : Single-sided
- Orientation : Landscape
- Template : Empty

At the bottom, there is a checkbox labeled 'Automatically run at program startup' which is checked. To the right are three buttons: '< Back(B)', 'Finish', and 'Cancel'.

<FIGURE> 11 - TEMPLATE WIZARD : FINISH SS

3.1.2 Create New Project

The image shows two parts. On the left is a portion of the application's 'File' menu, which includes options like 'Save', 'New', 'Open', and 'Print'. The 'New' option is highlighted. On the right is the 'New Project' dialog box. It contains the following fields:

- Name : <Enter_Name>
- Location : C:\Users\WIDP_SW_Mobile\Documents\SMART IDesigner\ [Browse button (...)]
- Import CSD : [Empty text box] [Browse button (...)]

Below the 'Import CSD' field is a checkbox labeled 'Import CSD File' which is currently unchecked. At the bottom right are 'OK' and 'Cancel' buttons.

<FIGURE> 12 - CREATE NEW PROJECT

You can create a new project by clicking the "New" button on the "File tab" or the "Home tab."

"Name" is the name of project to be designed. After creating folder as "name", essential files are created. There are several files in project folder as follow.

Name	Type
Backup	File folder
ImageTmp	File folder
SMART51_VER.csd	SmartID\CSD
SMART51_VER.csp	SmartID\CSP
SMART51_VER.db	DB File

<FIGURE> 13 - INSIDE PROJECT FOLDER

- ProjectName.csp : File which contains project configuration and linked data information
- ProjectName.csd : File including design data
- ProjectName.db : File including database data
- Backup Folder : Folder saving files for recovery when not saving under work
- ImageTmp Folder : Folder saving image temporarily under work(Deleted when the project ends)

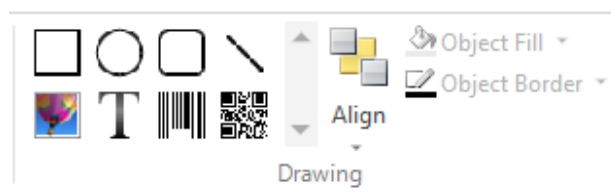
"Location" is a directory to place a project. The project is set a desired location.

"Import CSD" allows you to use an existed file designed by SMART IDesigner. To use "Import CSD" function, checkbox for "Import CSD File" is marked and CSD file in your folder is set. When using "Import CSD", original CSD file is copied in new project and then used.

If you do not do "Load CSD" the initial state will be set to a blank design.

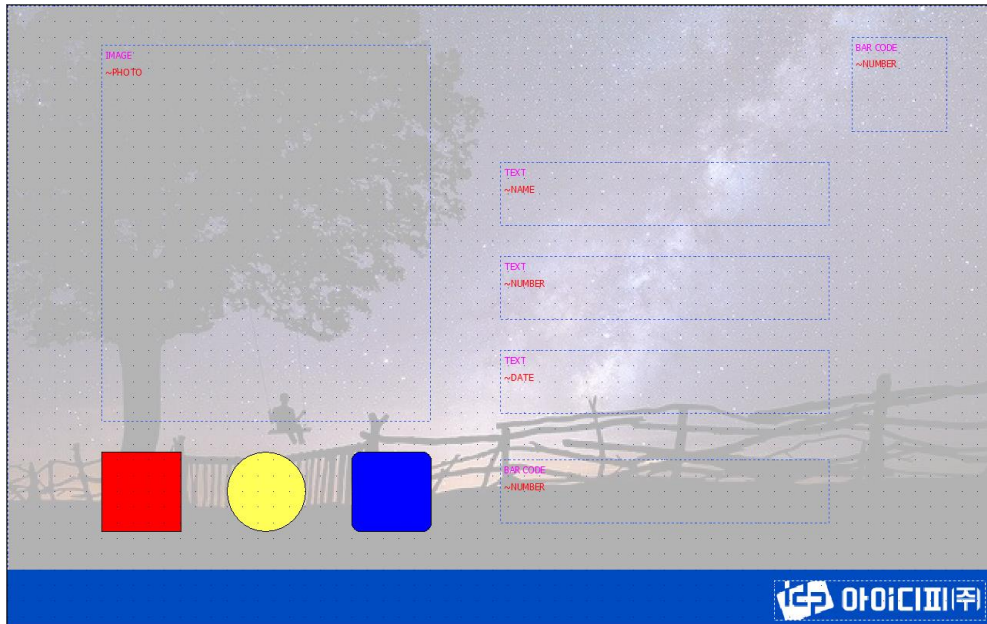
3.2 Design

3.2.1 Object



<FIGURE> 14 – DRAWING MENU ON HOME TAB

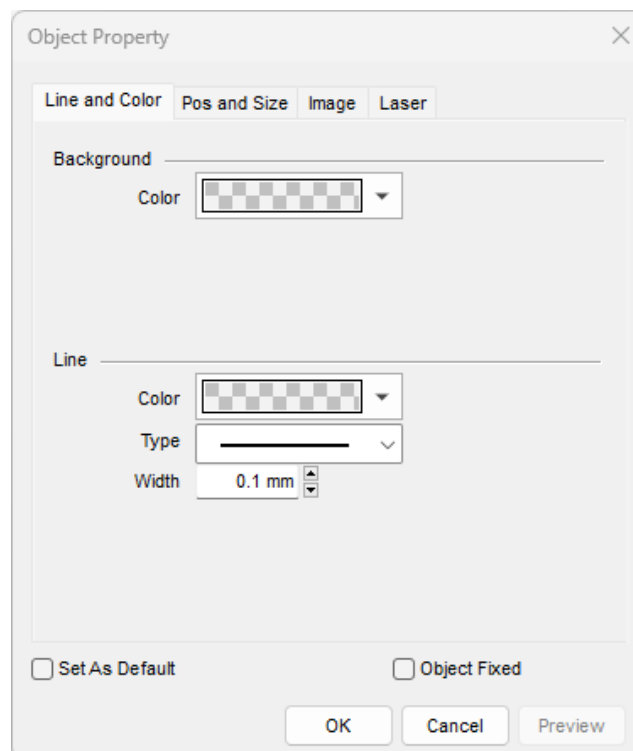
Use drawing objects to design the cards. Text/barcode/image objects can be linked to each database field. Each object can be aligned, rotated, mirrored, and fixed, and images can be edited separately.



<FIGURE> 15 – CARD DESIGN

You can use drawing objects to design a card as shown in Figure 15.

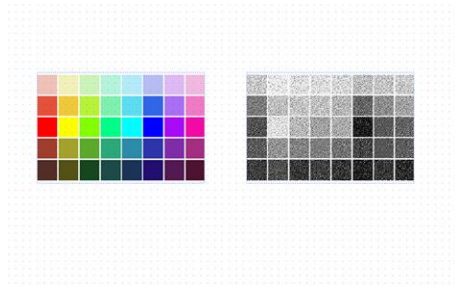
You can use the “Edit Background Image” to set an image as the background and place various shape objects, images, text, barcodes, etc. The dotted box represents an object that has established a connection to the database. See Section 3.3.1.



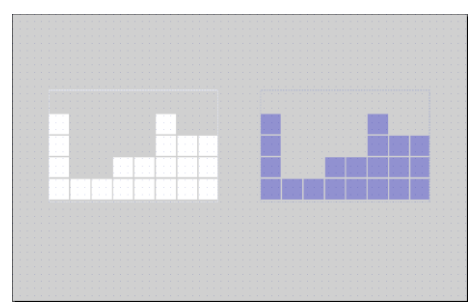
<FIGURE> 16 – OBJECT PROPERTY WINDOW

Double-clicking each object or right-clicking > selecting Object Properties will open the Object Properties window. You can use various settings, such as fixing the object or modifying data.

3.2.2 Panel



<FIGURE> 17 – COLOR PANEL OBJECT & BLACK PANEL OBJECT



<FIGURE> 18 – OVERLAY PANEL OBJECT & FLUORESCENT PANEL OBJECT

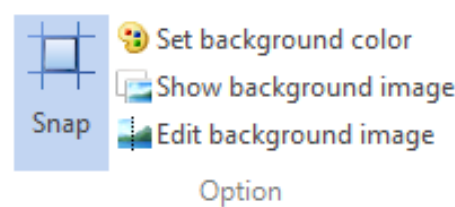
In "Panel" you can set which panel you want to use for each object when printing.

If your printer uses a ribbon with YMC panels, the Color panel is enabled and images and shapes default to color objects. Text and barcodes default to black and white panels.

If you use a Mono Ribbon or KO Ribbon on your printer, all objects will be set as black and white panels.

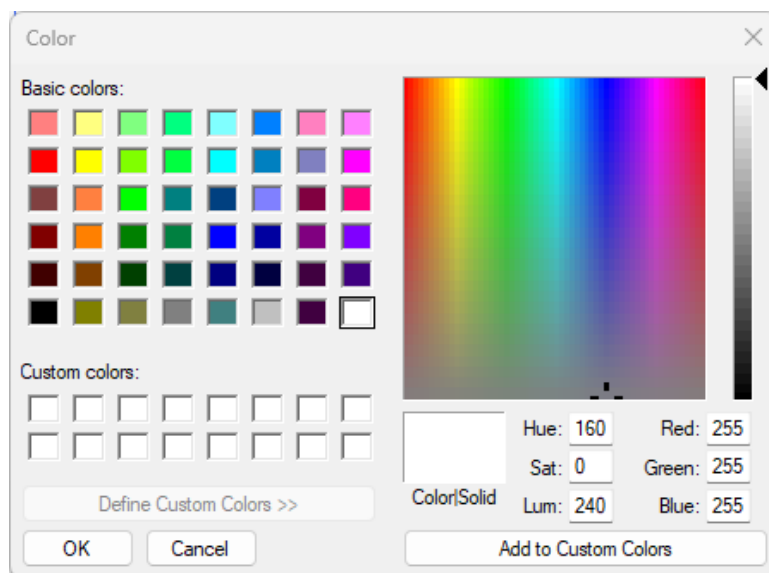
A ribbon with O or F panels, you can set objects to Overlay and Fluorescent panels.

3.2.3 Background



<FIGURE> 19 – OPTION MENU ON OPTION TAB

The background can be set as a solid color or an image.



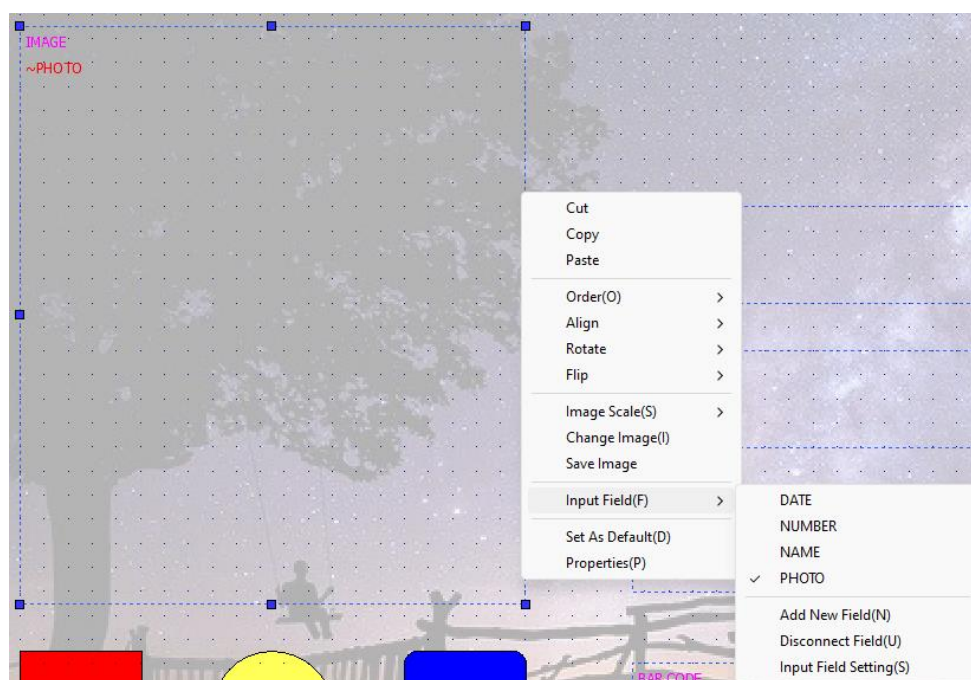
<FIGURE> 20 – BACKGROUND SETTING WINDOW

You can choose a background color by clicking "Set background color". You can set an image as the background by clicking "Edit background image".

3.3 Card Data

3.3.1 Create CSD Field

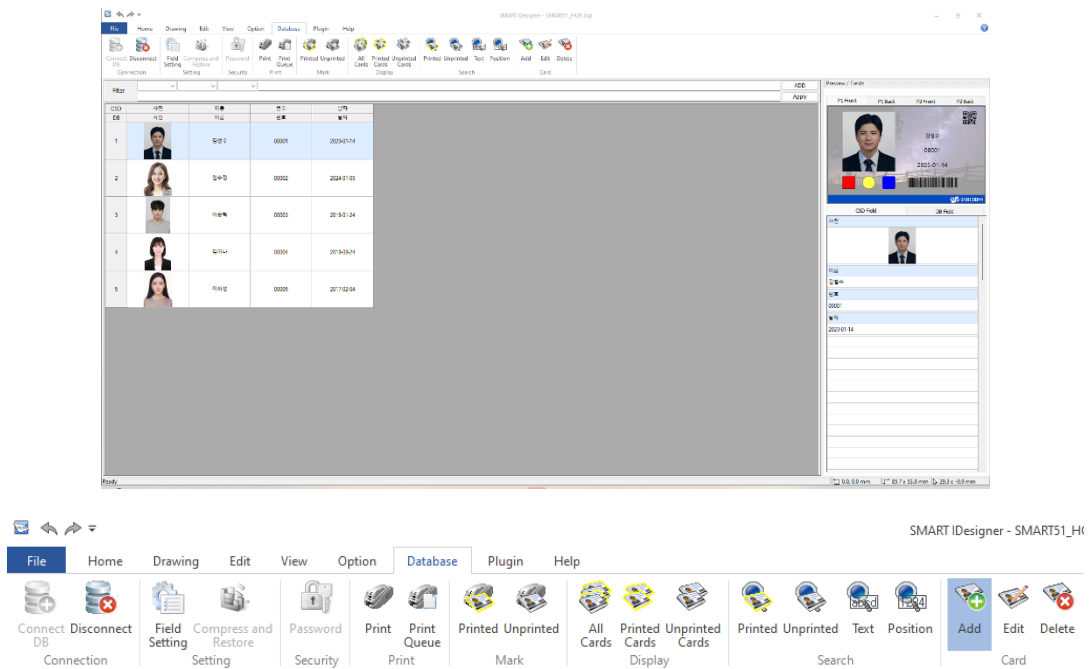
Select the object to be linked to the database as shown in Figure 21, right-click, select "Add New Field" from "Input Field" in the pop-up menu to create a new field, or select an already created field according to the properties of each object to link it to the database.



<FIGURE> 21 – CREATE CARD DATA FIELD

3.3.2 Input

In the "Database" tab, you can enter data in the input fields defined as shown in Figure 22 and print.



<FIGURE> 22 – CARD DATABASE & RIBBON MENU

Click the "Add" button on the Database tab, a window will appear where you can enter data as shown in Figure 23.

After entering the data, you can click "Add Continue" button to continuously add new card and data.

Image Field	
Name	Value
1 PHOTO	

String Field	
Name	Value
1 NAME	KIM HANA
2 NUMBER	00006
3 DATE	2024-06-18

<FIGURE> 23 – INPUT CARD DATA

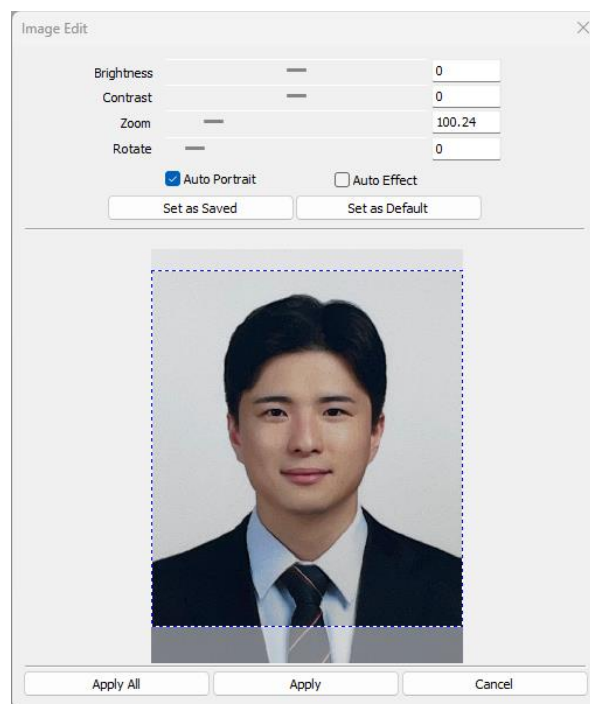
3.3.3 Preview



<FIGURE> 24 - PREVIEW

Card data details and card image preview of the selected card can be checked on the right side of the 'Database tab'.

3.3.4 Edit Image



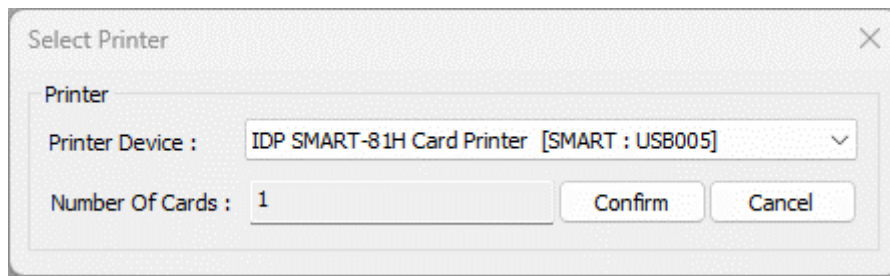
<FIGURE> 25 – EDIT IMAGE WINDOW

If you want to edit an image in the "Database" tab, double-click the image in the Preview section and the "Edit Image" window will open.

In the "Edit Image" window, you can set the size, brightness/contrast/rotation of the image, etc., and you can conveniently edit the image with the Auto Portrait and Auto Effect functions.

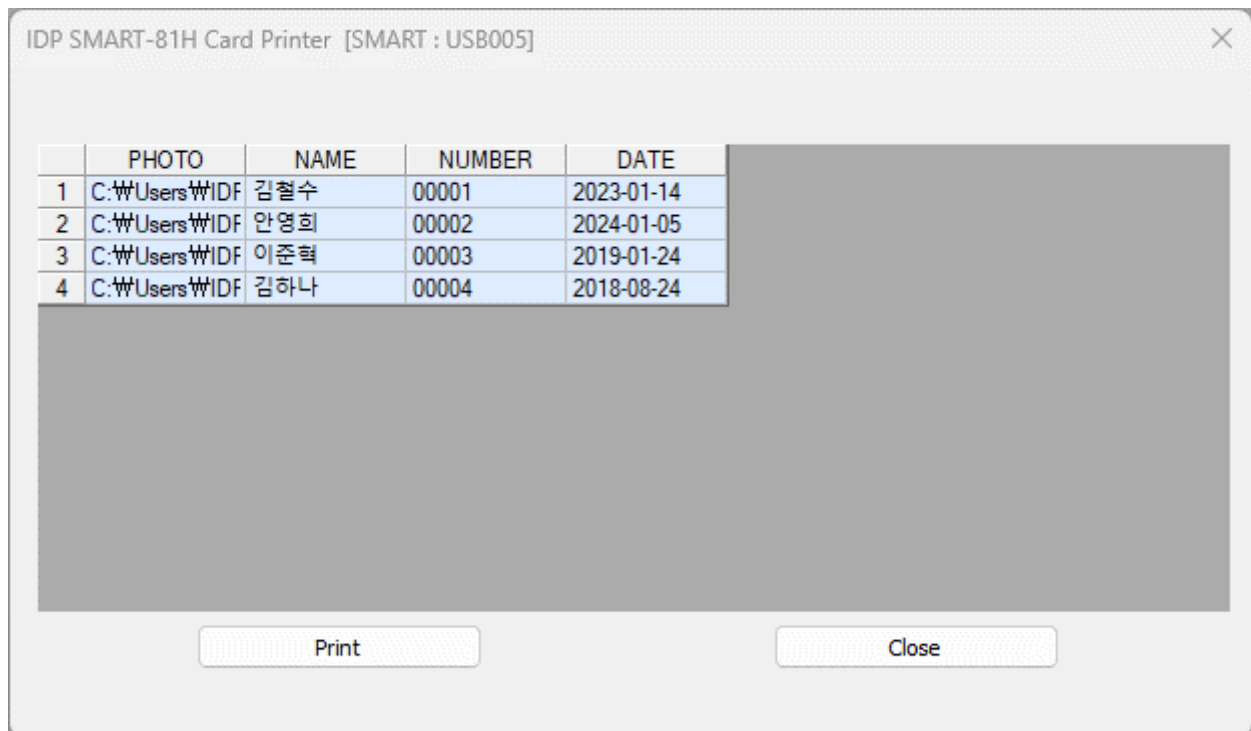
3.3.5 Card Issuing

Select the card to be issued as shown in Figure 26 (the selected card will be light blue), click the “Print” button, and then select the printer to print to.



<FIGURE> 26 – PRINTER SELECTION WINDOW

After selecting a printer and clicking the “Confirm” button, you can check the list of card data to be printed in the printer spool window, and when you click the “Print” button, the selected cards will be issued continuously.



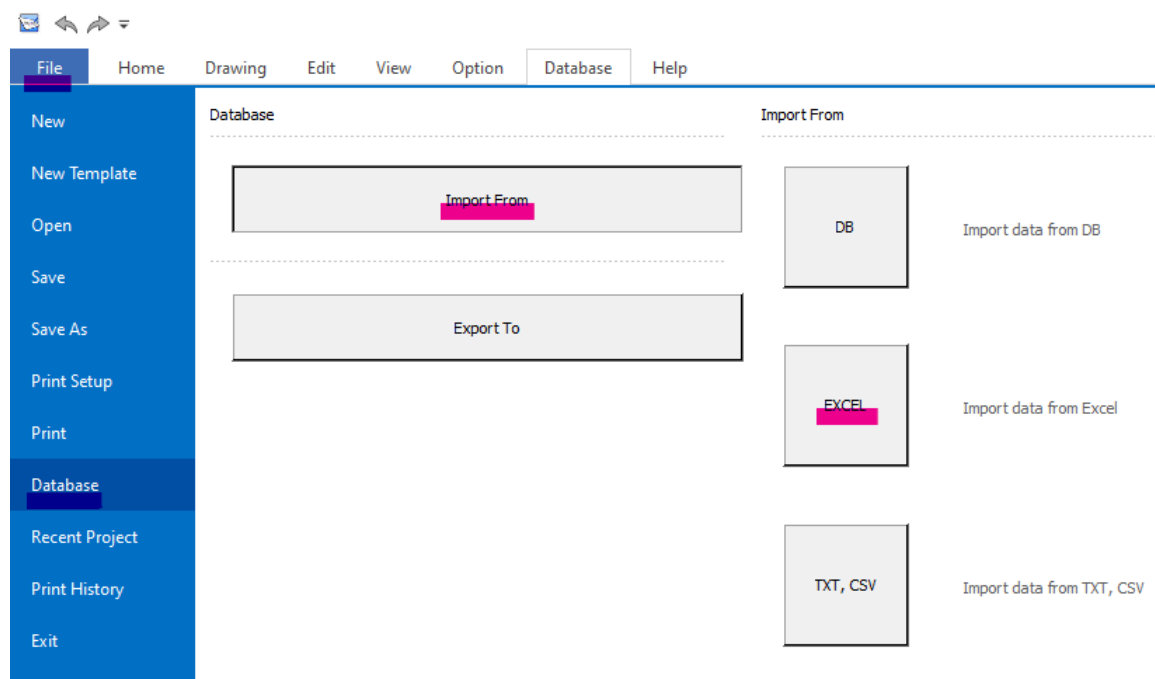
<FIGURE> 27 – DATA VERIFICATION WINDOW BEFORE CARD ISSUANCE

SMART IDesigner can print to multiple connected printers. While printing is in progress, you can select another card and add it to the printer spool that is being printed, or select a new printer to print.

4 Data Import From/Export To

In addition to entering card data directly, you can also import a large amount of data at once through Excel/SQLite DB/CSV files.

4.1 Import From



<FIGURE> 28 - IMPORT FROM IN THE DATABASE MENU ON FILE TAB

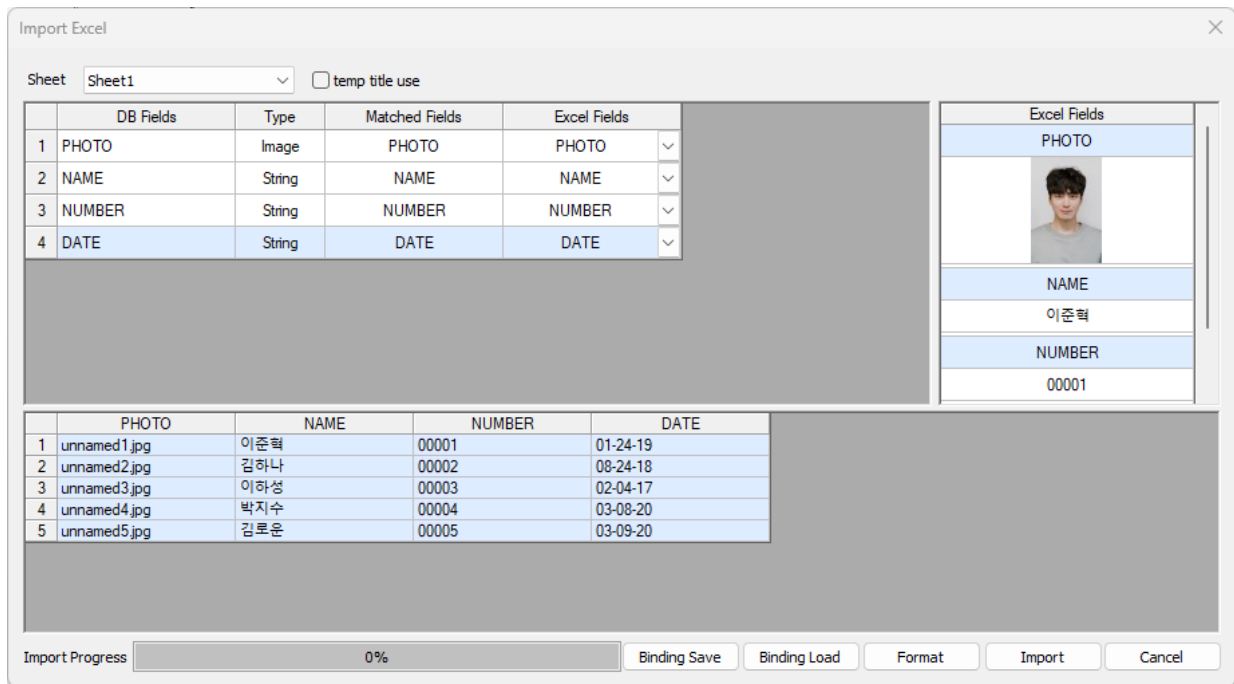
You can import or export a database from the "Database" menu in the "File" tab.

Import supports 3 types of databases (DB/EXCEL/TXT, CSV).

4.1.1 Import From Excel

When importing from EXCEL, the first column of the Excel file is recognized as a field, and columns from the second column onwards are recognized as data.

When "Binding Save" button is clicked after connecting input fields to EXCEL field, the information about connecting fields is saved as a file (.bnd). If the updated EXCEL file is imported next time, you can import that information by clicking 'Binding Import' button at once.

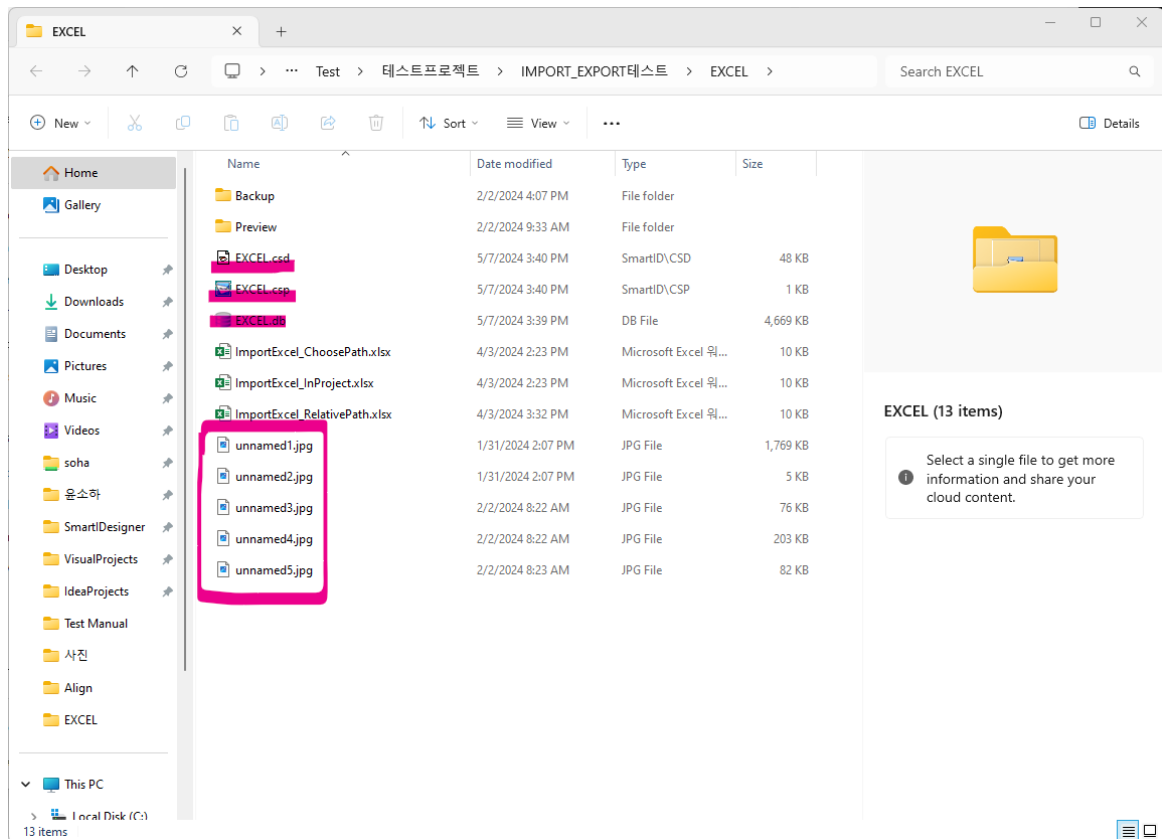


<FIGURE> 29 - IMPORT FROM EXCEL WINDOW

There are 3 ways to Import images.

1) Internal Path in Project

When the image file to be loaded is in the project folder.



<FIGURE> 30 - IMAGE FILE LOCATED IN THE PROJECT FOLDER

PHOTO

unnamed1.jpg

unnamed2.jpg

unnamed3.jpg

unnamed4.jpg

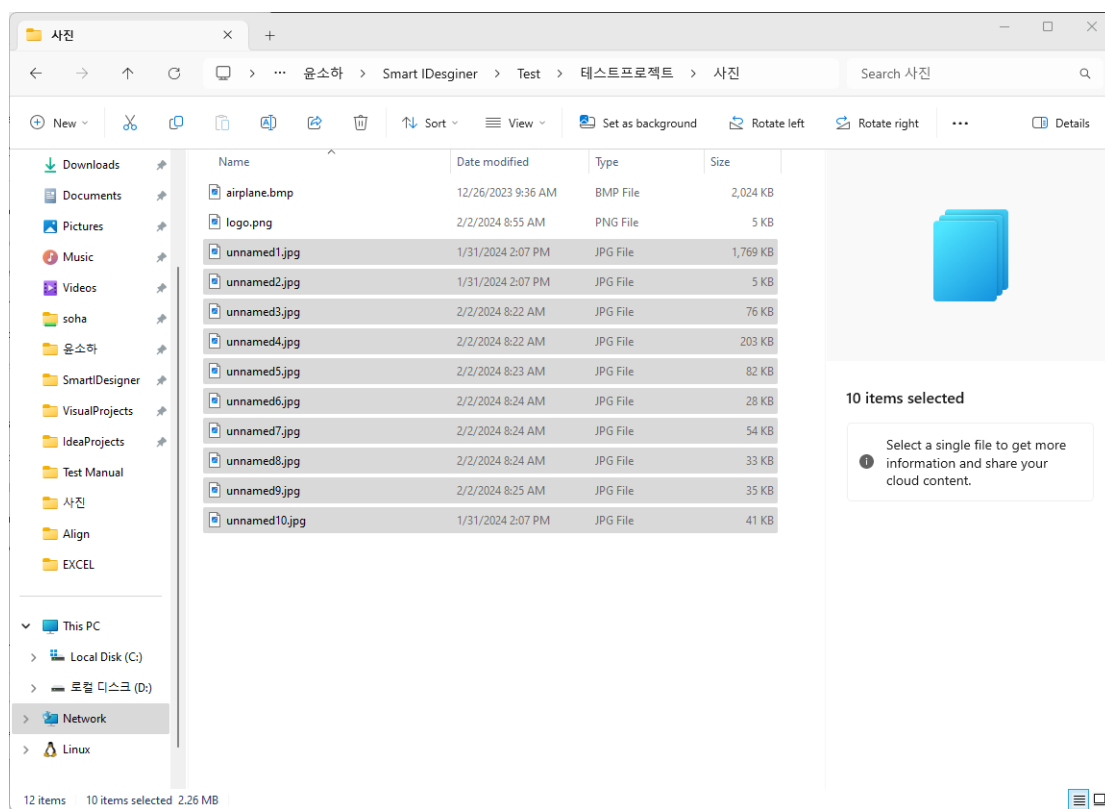
unnamed5.jpg

<FIGURE> 31 - FILE NAME WRITTEN IN THE EXCEL FILE (LOCATED IN THE PROJECT FOLDER)

When loading data, the project folder is searched first, so if you enter the exact "file name" for the image, the image will be loaded.

2) Relative Path

If the image file in the same location as the project folder or in a parent folder.

**<FIGURE> 32 - IMAGE FILE LOCATED IN THE PARENT FOLDER OF THE PROJECT FOLDER**

Enter a relative path to where the image is located, the image matching the image "file name" will be loaded based on the project folder.

PHOTO
..\\사진\\unnamed1.jpg
..\\사진\\unnamed2.jpg
..\\사진\\unnamed3.jpg
..\\사진\\unnamed4.jpg
..\\사진\\unnamed5.jpg
..\\사진\\unnamed6.jpg
..\\사진\\unnamed7.jpg
..\\사진\\unnamed8.jpg
..\\사진\\unnamed9.jpg
..\\사진\\unnamed10.jpg

<FIGURE> 33 - IMAGE FILE PATH WRITTEN IN THE EXCEL FILE

If you have created a separate image folder within the project folder, you can load the image by entering the folder name.

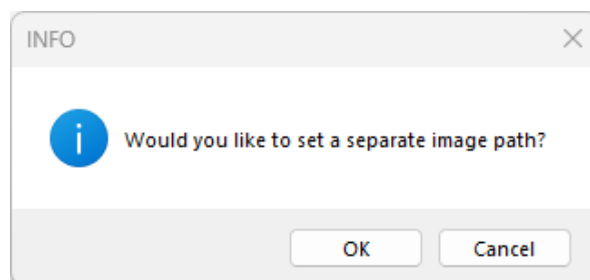
3) Specified Path

If the image files in a path unrelated to the project folder location.

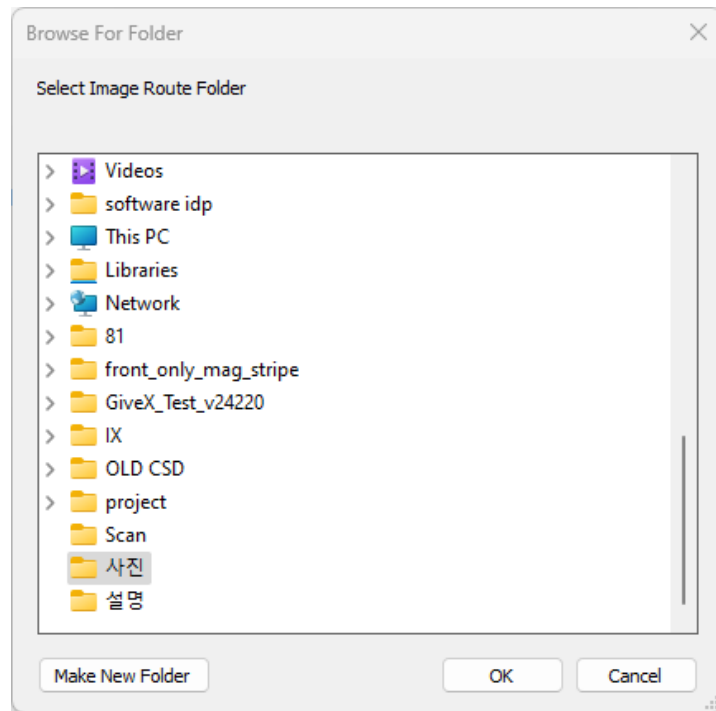
PHOTO
unnamed6.jpg
unnamed7.jpg
unnamed8.jpg
unnamed9.jpg
unnamed10.jpg

<FIGURE> 34 - FILE NAME WRITTEN IN EXCEL (NOT EXISTING IN THE PROJECT FOLDER)

Enter only the "File name" in the data if there are no images with the same file name in the project folder.

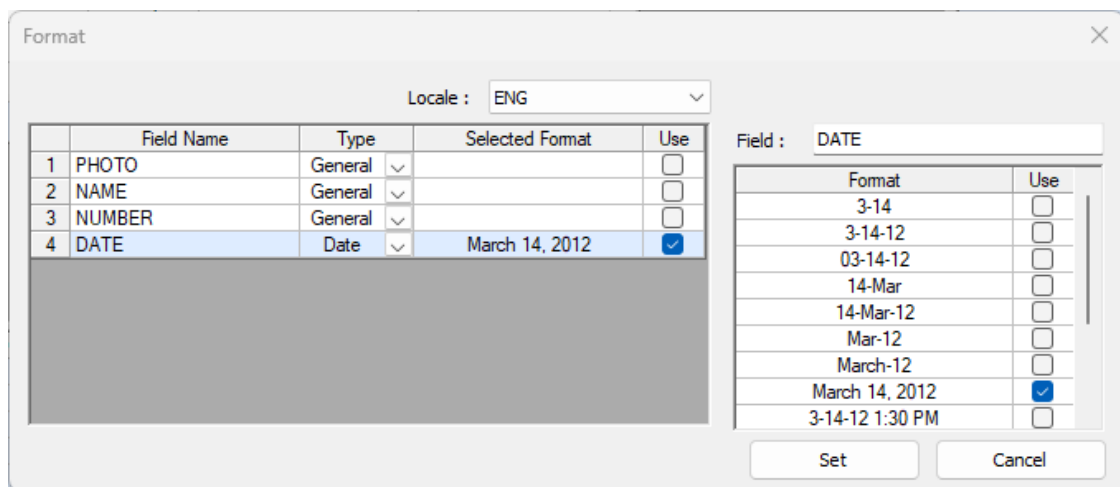


<FIGURE> 35 - IMAGE PATH SETTING POPUP



<FIGURE> 36 - FOLDER SELECTION WINDOW

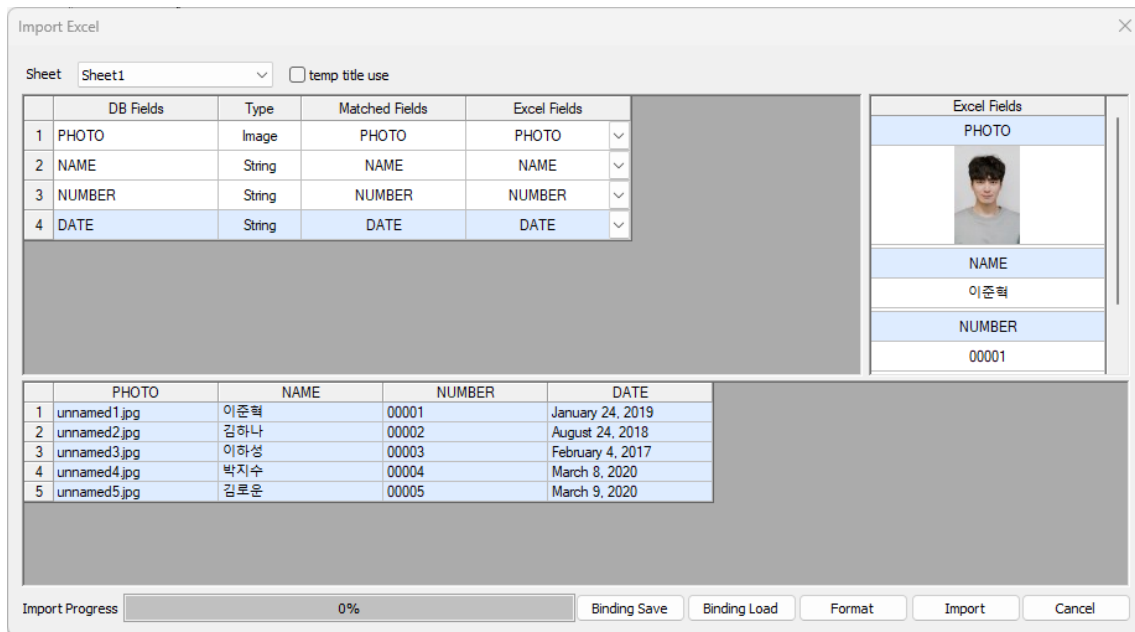
In this case, a window will open to select a folder after the confirmation pop-up message to set the image path. Select the location where the image folder and click the "OK" button to will be load the images.



<FIGURE> 37 – CELL FORMAT WINDOW

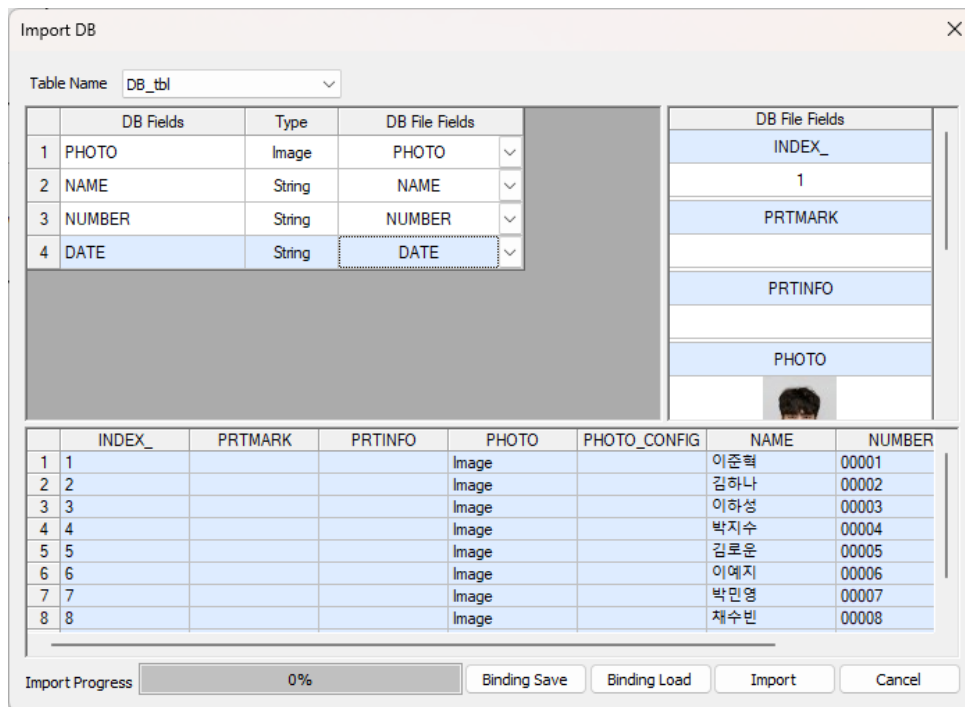
The "Cell Format" is you to change formatted data, such as date/time, to a desired format.

In the "Cell Format" window, select the data field and format you want to use and click the "Set" button to change the data in the Excel file.



<FIGURE> 38 - FORMATTED CELL DISPLAY

4.1.2 Import From DB

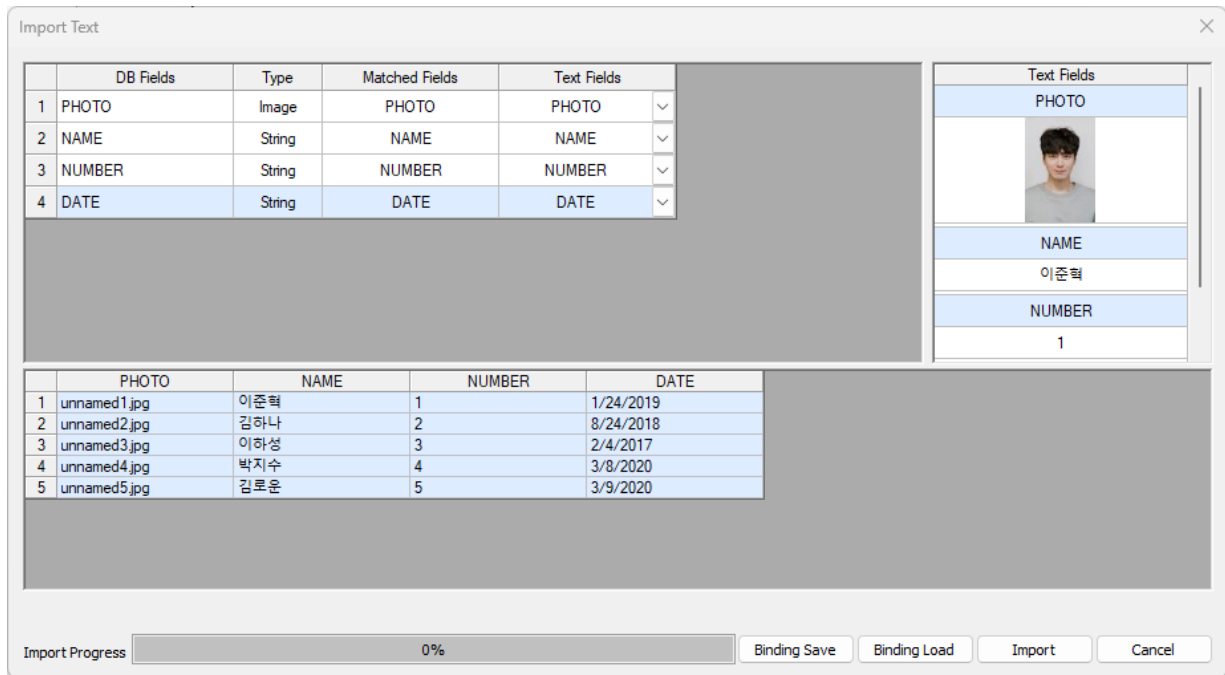


<FIGURE> 39 - DATABASE IMPORT WINDOW

When you click the "DB (Import data from DB)" button, a window will pop up allowing you to select a .db file.

The "Import DB" window displays the internal data of the DB file, and if you match the CSD field to the DB field, it will be bound. Select all the data you want to import and click the "Import" button, and the selected data will be entered into the "Database" tab sheet of SMART IDesigner.

4.1.3 Import From TXT, CSV



<FIGURE> 40 - IMPORT FROM TEXT WINDOW

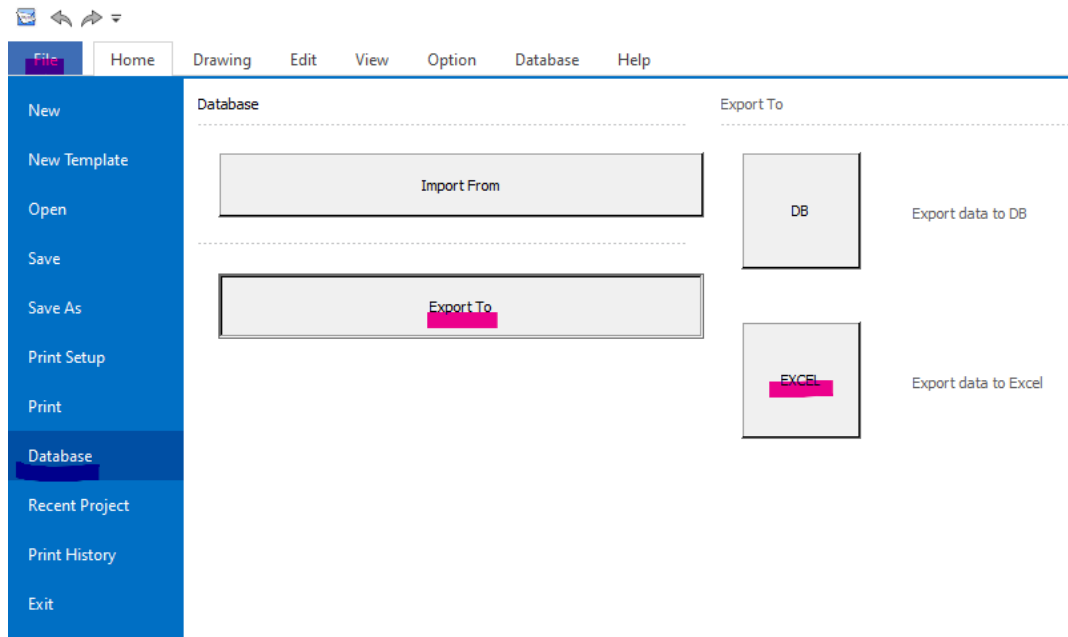
When you click the "TXT, CSV (Import data from TXT, CSV)" button, a window will pop up allowing you to select a .txt or .csv file.

The "Import Text" window displays the internal data of the file, and if you match the CSD field to the DB field, it will be bound. Select all the data you want to import and click the "Import" button, and the selected data will be entered into the "Database" tab sheet of the SMART IDesigner.

4.2 Export To

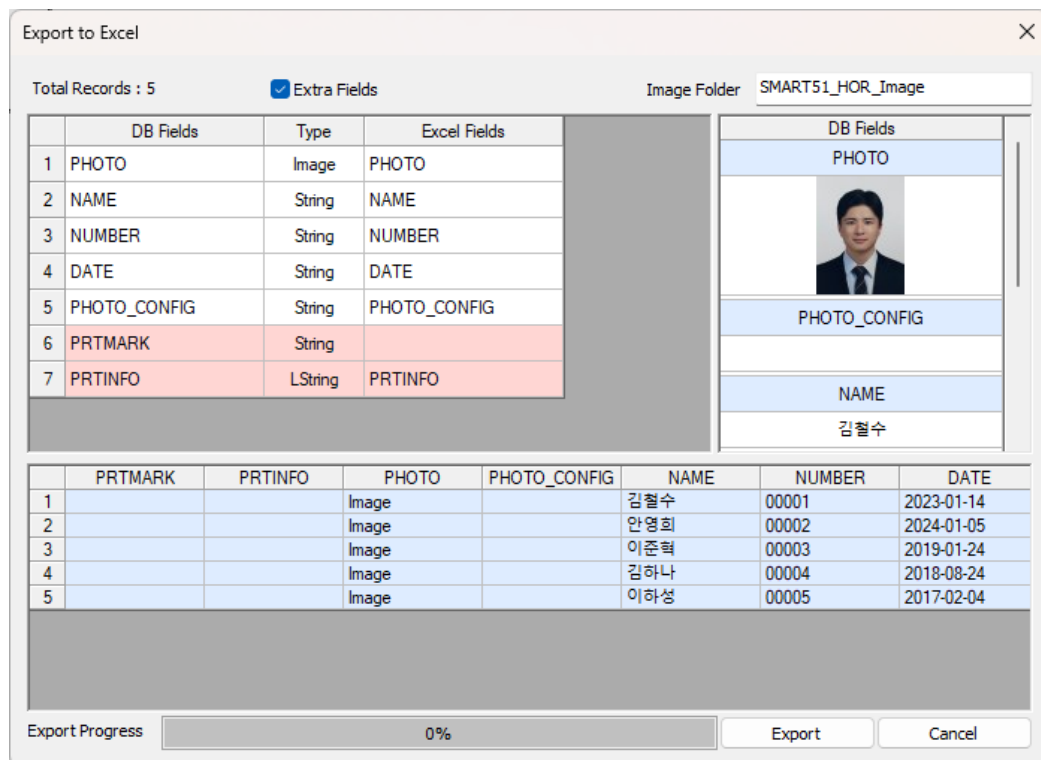
The "Export to" is you to convert card data existing in the "Database" tab of the SMART IDesigner into a SQLite DB file or Excel file and save it as a file.

4.2.1 Export To Excel



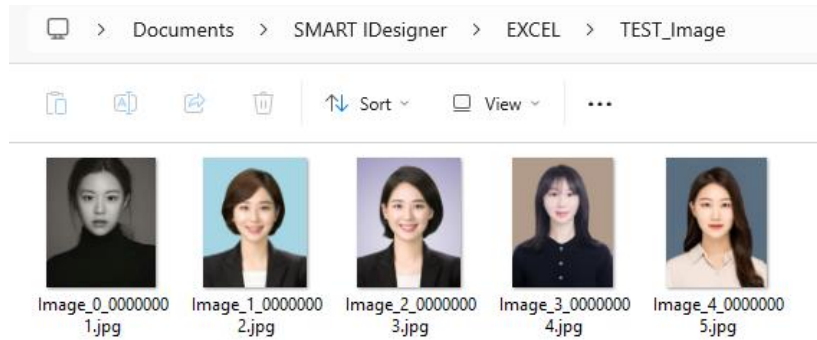
<FIGURE> 41 - EXPORT TO IN THE DATABASE MENU ON THE FILE TAB

You can export to "DB" or "Excel" by clicking the "Export to" button in the Database menu of the "File" tab.



<FIGURE> 42 – EXPORT TO EXCEL WINDOW

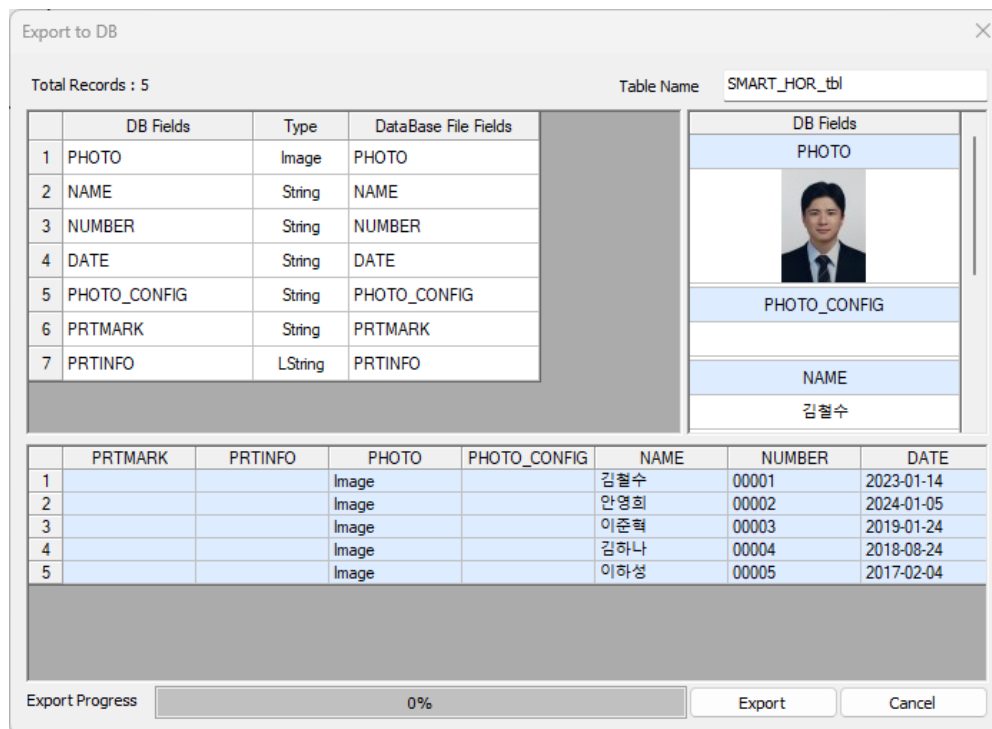
To export to "Excel", select all the data you want to export in the "Export to Excel" window and click the "Export" button.



<FIGURE> 43 – FOLDER WHERE EXPORTED IMAGES ARE SAVED

Choose the save location, enter the file name, and click OK, an Excel file will be created and a "Project Name_Image" folder containing the image will be created in the project folder.

4.2.2 Export To DB



<FIGURE> 44 – EXPORT TO DB WINDOW

To export to "DB", select all the data you want to export in the "Export to DB" window and click the "Export" button.

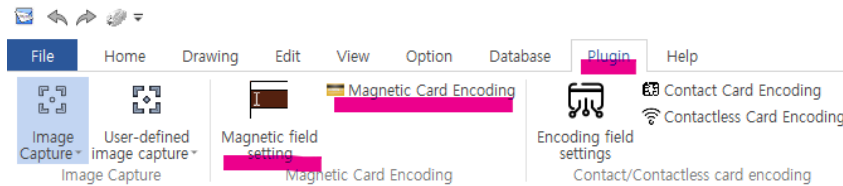
Choose the save location, enter the file name, and click OK, will be created and a "SQLite DB" files containing the image.

5 Encoding

SMART IDesigner supports data encoding on magnetic cards, contact/contactless smart cards.

It is possible when using a printer equipped with an encoder, and the following settings are required for encoding.

5.1 MS Encoding



<FIGURE> 45 - MAGNETIC FIELD SETTING IN THE FIELDS MENU ON PLUGIN TAB

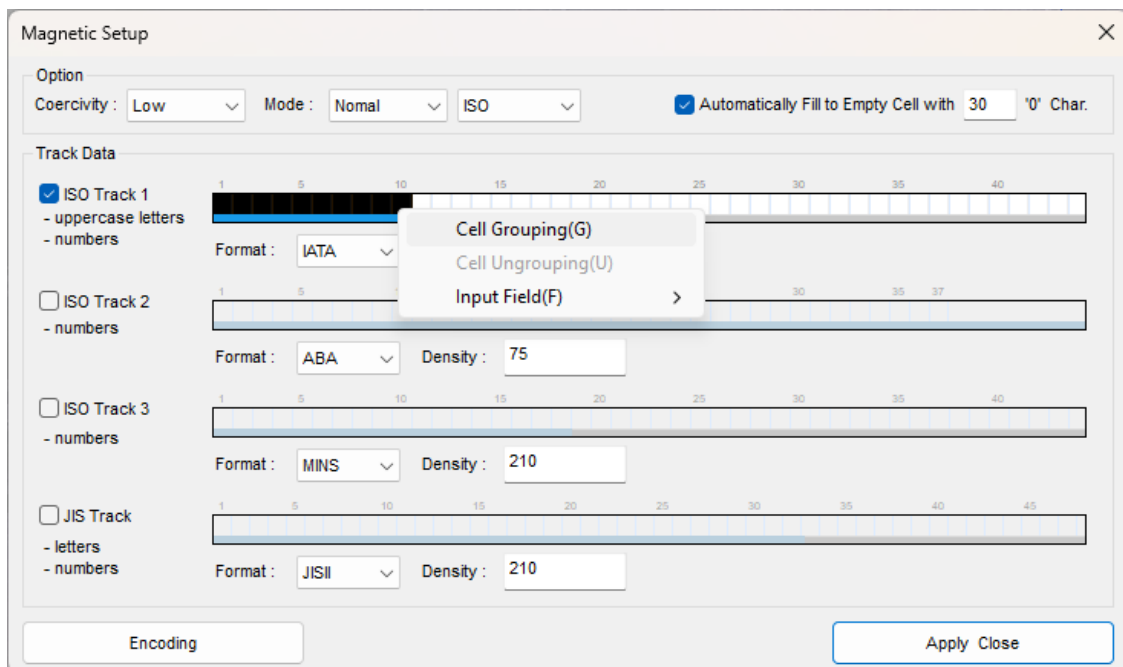
To activate the MS encoding, go to the "Plugin" tab in the menu bar.

When you click the "Magnetic Card Encoding" to activate MS Encoding, the Magnetic Setup window will pop up allowing you to change encoding options.

To edit the encoding options, click the "Magnetic Field Setting".

To deactivate the MS encoding, click the "Magnetic Card Encoding" again.

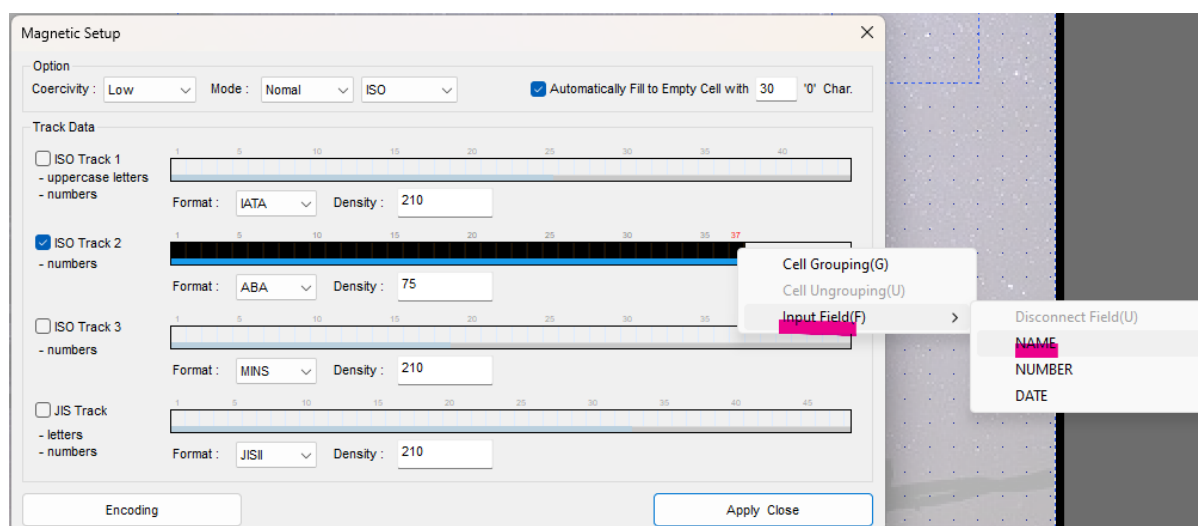
5.1.1 Toggle Cell Grouping



<FIGURE> 46 - CELL GROUPING IN THE MAGNETIC FIELD SETTINGS WINDOW

There are two ways to enter magnetic encoded data. Use to linked data to the "Database" tab fields, direct entering designated text or you can use a mix of these.

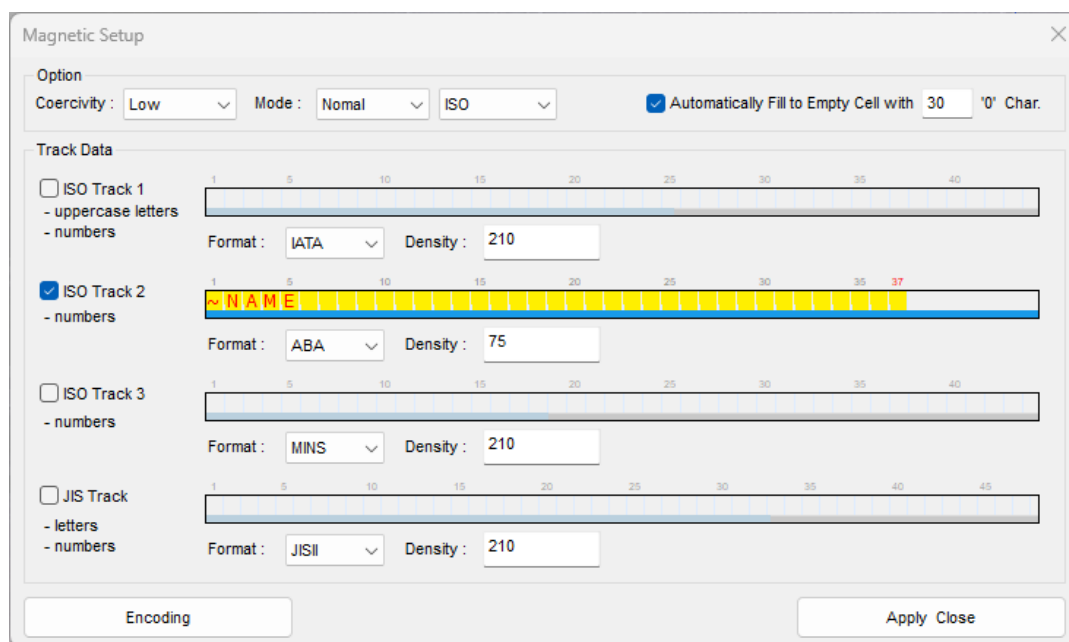
5.1.2 Set Whole Field



<FIGURE> 47 - INPUT FIELD CONFIGURATION IN THE MAGNETIC FIELD WINDOW

Check the track you want to use to activate it.

You can drag the cell to the data length you want to use and right-click to make a group or select the input fields in the database.



<FIGURE> 48 – SCREEN WHERE ALL CELLS OF THE TRACK ARE LINKED WITH FIELDS

When you select an input field, a list of CSD fields will be displayed and you can link them to the selected Track. When a field is linked, the cell will turn yellow and the field name will be displayed.

5.1.3 Set Field + Text

The screenshot shows the 'Magnetic Setup' dialog box. Under 'Option', 'Coercivity' is set to 'Low', 'Mode' to 'Normal', and 'ISO' is selected. The checkbox 'Automatically Fill to Empty Cell with 30 0 Char.' is checked. In the 'Track Data' section, 'ISO Track 2' is selected with the description '- uppercase letters - numbers'. The track visualization shows the first 10 cells containing '~NAME' and the next 6 cells containing '00000'. The 'Format' is set to 'ABA' and 'Density' is '75'. Other tracks (ISO Track 1, ISO Track 3, and JIS Track) are unselected. At the bottom are 'Encoding' and 'Apply Close' buttons.

<FIGURE> 49 - SCREEN WHERE FIELDS AND TEXT ARE SET TOGETHER ON THE TRACK

You can use fields with designated text by dragging to select the cells and entering text in the remaining space.

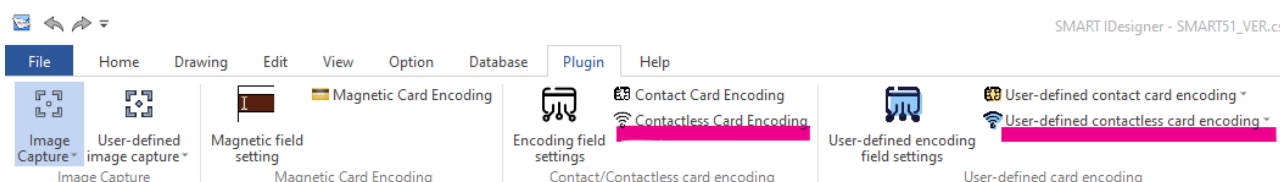
5.1.4 Set Multiple Fields

This screenshot is similar to Figure 49 but shows 'ISO Track 2' configured with two fields. The track visualization shows the first 10 cells containing '~NAME' and the next 10 cells containing '~NUMBER'. The 'Format' is 'ABA' and 'Density' is '75'. The rest of the dialog box settings are identical to Figure 49.

<FIGURE> 50 - SCREEN WITH MULTIPLE FIELDS SET ON THE TRACK

You can use two or more fields together in the same way, and data will be entered according to the length of the set cell, regardless of the data length.

5.2 Contactless Card Encoding

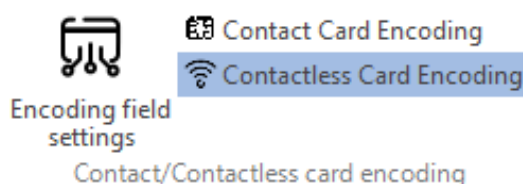


<FIGURE> 51 – CONTACTLESS CARD ENCODING MENU ON PLUGIN TAB

To activate the Contactless Card Encoding, go to the "Plugin" tab in the menu bar.

There are two types of Contactless Card Encoding: "Contactless Card Encoding" in the Contact/Contactless Card Encoding section, and "User-Defined Contactless Card Encoding" in the User-Defined Card Encoding section.

5.2.1 Contactless Card Encoding



<FIGURE> 52 - CONTACTLESS CARD ENCODING IN THE CONTACT/CONTACTLESS CARD ENCODING AREA

"Contactless Card Encoding" in the Contact/Contactless Card Encoding section is to use a built-in contactless card encoding function.

Click the "Contactless Card Encoding" to activate Contactless Card Encoding. The Default Encoding Field Settings window will pop up allowing you to change encoding options.

To edit the encoding options, click "Encoding Field Settings".

To deactivate the Contactless Card Encoding, click the "Contactless Card Encoding" again or leave the input and output unset in the Fields Setting window.

Default Encoding Field Settings

Encoding Type

Choose Encoding Type : Contactless Card Encoding

Card Type

Choose Card Type : NTAG 215

Start Block : 4 End Block : -1

Option

☒ URL Mode ☒ Proceed after formatting Progress Display

☐ Skip electricity supply

Field Setting

	Field Name	Input	Output	Output Data Type	
1	URL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	String	
2	OUT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	String	

OK CANCEL

<FIGURE> 53 - DEFAULT ENCODING FIELD SETTINGS WINDOW: CONTACTLESS CARD ENCODING MODE

The Default Encoding Field Settings allows you to set Encoding type, Card Type, Start block, End block and Field Setting (Field Name, Input, Output, and Output Data Type).

When you set the Input checkbox, it encodes data from the value of database field to the contactless chip.

When you set the Output checkbox, it reads the ATR of the card and save it to the selected database field.

1) URL Mode

This mode is exclusively available for NTAG cards. It encodes a URL, allowing smartphones to navigate to the encoded URL when tapping the NFC tag.

2) **Proceed after formatting**

Erases all data currently encoded on the card before proceeding with new encoding.

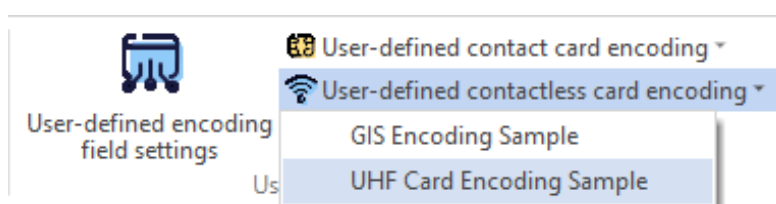
3) **Progress Display/No Progress Display**

Displays a popup showing the progress during formatting, which can be toggled on or off.

4) **Skip electricity supply**

If checked, RF or IC ON/OFF operations are not performed when using custom card encoding.

5.2.2 User-Defined Contactless Card Encoding



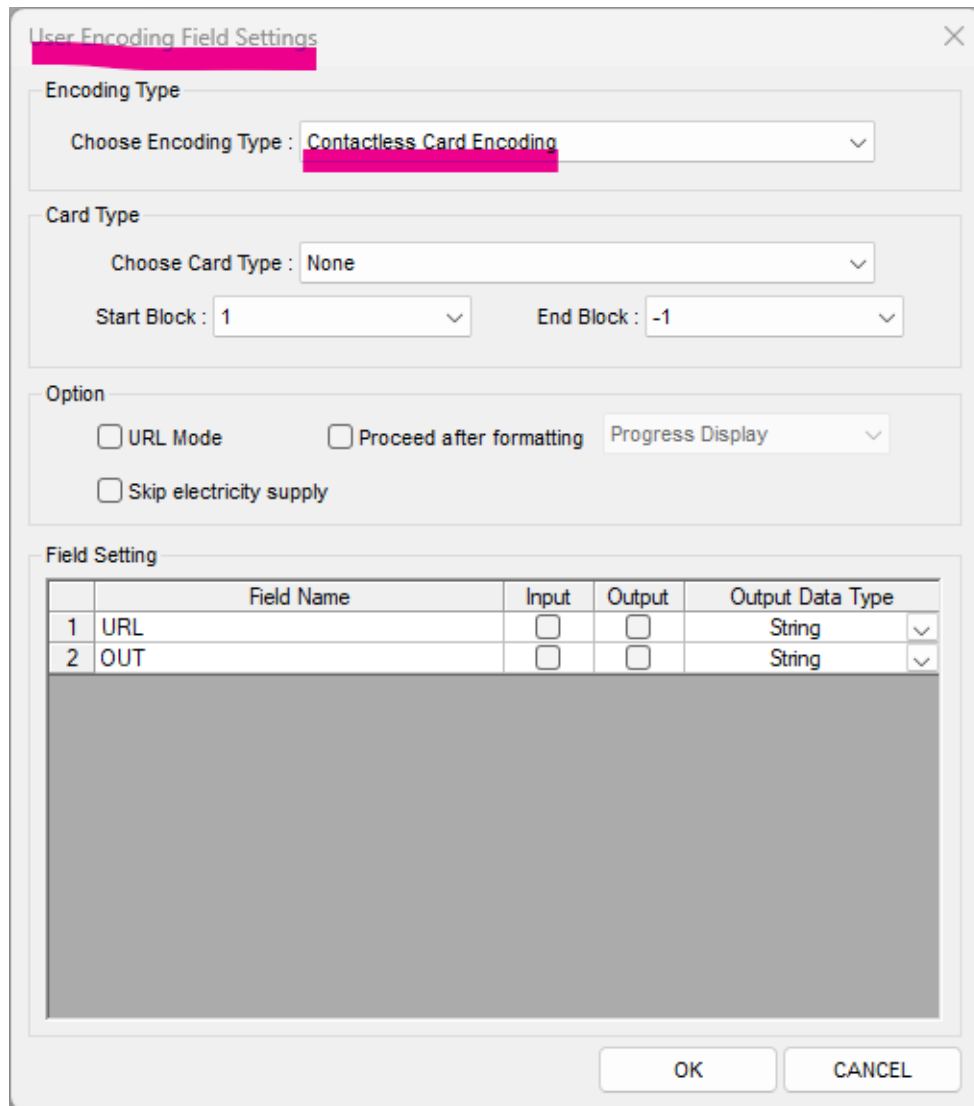
<FIGURE> 54 – USER-DEFINED CONTACTLESS CARD ENCODING IN THE USER-DEFINED CARD ENCODING AREA

"User-Defined Contactless Card Encoding" allows you to use the contactless card encoding libraries (.dll file) developed by user.

Click the "User-Defined Contactless Card Encoding" to select the plugins developed by user. The User Encoding Field Settings window will pop up allowing you to change encoding options.

To edit the encoding options, click "User-Defined Encoding Field Settings".

To deactivate the User-Defined Contactless Card Encoding, click the "User-defined Contactless Card Encoding" again or leave the input and output unset in the Fields Setting window.



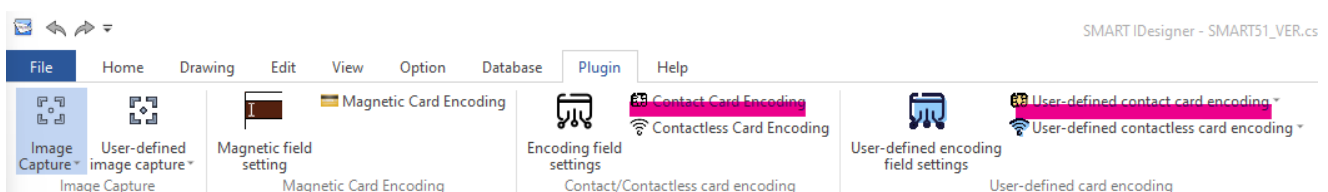
<FIGURE> 55 – USER ENCODING FIELD SETTINGS WINDOW: CONTACTLESS CARD ENCODING MODE

The User Encoding Field Settings allows you to set Encoding type, Card Type, Start block, End block and Field Setting (Field Name, Input, Output, and Output Data Type).

When you set the Input checkbox, it encodes data from the value of database field to the contactless chip.

When you set the Output checkbox, it reads the ATR of the card and save it to the selected database field.

5.3 Contact Card Encoding

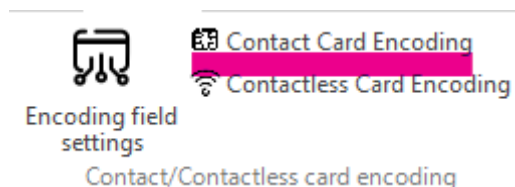


<FIGURE> 56 - CONTACT CARD ENCODING MENU ON PLUGIN TAB

To activate the Contact Card Encoding, go to the "Plugin" tab in the menu bar.

There are two types of Contact Card Encoding: "Contact Card Encoding" in the Contact/Contactless Card Encoding section, and "User-Defined Contact Card Encoding" in the User-Defined Card Encoding section.

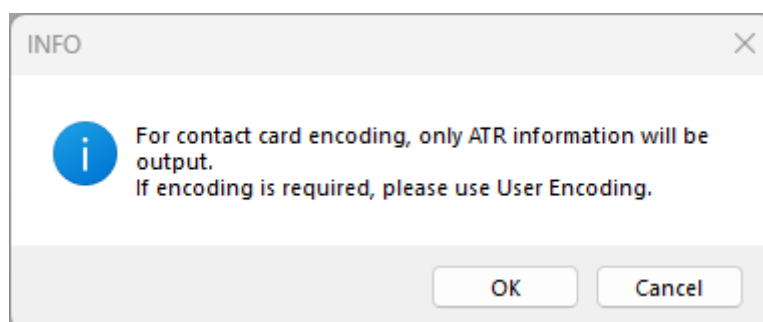
5.3.1 Contact Encoding



<FIGURE> 57 - CONTACT CARD ENCODING IN THE CONTACT/CONTACTLESS CARD ENCODING AREA

"Contact Card Encoding" in the Contact/Contactless Card Encoding section is to use a built-in contact card encoding function.

Click the "Contact Card Encoding", INFO window will pop up stating that Contact Card Encoding is only for ATR output.



<FIGURE> 58 - CONTACT CARD ENCODING GUIDE POPUP

Click the "OK" button. The Default Encoding Field Settings window will pop up allowing you to change encoding options.

To edit the encoding options, click the "Encoding field settings".

To deactivate the Contact Card Encoding, click the "Contact Card Encoding" again or leave the input and output unset in the Fields Setting window.

The screenshot shows the 'Default Encoding Field Settings' dialog box. It has a title bar with a close button. The dialog is divided into several sections:

- Encoding Type:** A dropdown menu set to 'Contact Card Encoding'.
- Card Type:** A dropdown menu set to 'None'.
- Start Block:** A dropdown menu set to '1'.
- End Block:** A dropdown menu set to '-1'.
- Option:** Three checkboxes: 'URL Mode' (unchecked), 'Proceed after formatting' (unchecked), and 'Skip electricity supply' (unchecked). To the right is a 'Progress Display' dropdown menu.
- Field Setting:** A table with the following data:

	Field Name	Input	Output	Output Data Type
1	URL	<input type="checkbox"/>	<input type="checkbox"/>	String
2	OUT	<input type="checkbox"/>	<input type="checkbox"/>	String

At the bottom right are 'OK' and 'CANCEL' buttons.

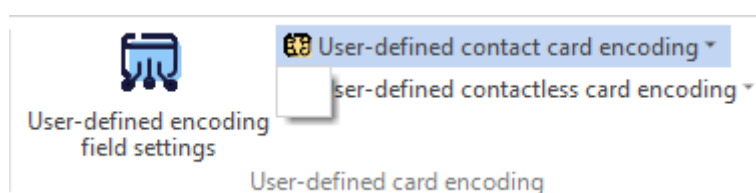
<FIGURE> 59 - DEFAULT ENCODING FIELD SETTINGS WINDOW: CONTACT CARD ENCODING MODE

The Default Encoding Field Settings allows you to set Encoding type, Card Type, Start block, End block and Field Setting (Field Name, Input, Output, and Output Data Type).

The Input checkbox doesn't work on Contact Card Encoding.

When you set the Output checkbox, it reads the ATR of the card and save it to the selected database field.

5.3.2 User-Defined Contact Card Encoding



<FIGURE> 60 - USER-DEFINED CONTACT CARD ENCODING IN THE USER-DEFINED CARD ENCODING AREA

"User-Defined Contact Card Encoding" allows you to use the contact card encoding libraries (.dll file) developed by user.

Click the "User-Defined Contact Card Encoding" to select the plugins developed by user. The User Encoding Field Settings window will pop up allowing you to change encoding options.

To edit the encoding options, click "User-Defined Encoding Field Settings".

To deactivate the User-Defined Contact Card Encoding, click the "User-defined Contact Card Encoding" again or leave the input and output unset in the Fields Setting window.

User Encoding Field Settings

Encoding Type
Choose Encoding Type : Contact Card Encoding

Card Type
Choose Card Type : None
Start Block : 1 End Block : -1

Option
☐ URL Mode ☐ Proceed after formatting Progress Display
☐ Skip electricity supply

Field Setting

	Field Name	Input	Output	Output Data Type
1	URL	<input type="checkbox"/>	<input type="checkbox"/>	String
2	OUT	<input type="checkbox"/>	<input type="checkbox"/>	String

OK CANCEL

<FIGURE> 61 - USER ENCODING FIELD SETTINGS WINDOW: CONTACT CARD ENCODING MODE

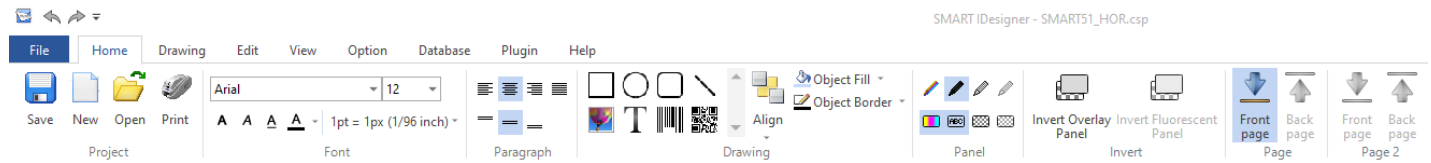
The User Encoding Field Settings window allows you to set Encoding type, Card Type, Start block, End block and Field Setting (Field Name, Input, Output, and Output Data Type).

When you set the Input checkbox, it encodes data from the value of database field to the contact chip.

When you set the Output checkbox, it reads the ATR of the card and save it to the selected database field.

6 Tab and Feature Descriptions

SMART IDesigner consists of menu tab, ribbon bar, drawing and properties area as shown the Figure 55.



<FIGURE> 62 - SMART IDESIGNER TAB & RIBBON BAR

Menu consists of "File", "Home", "Drawing", "Edit", "View", "Option", "Database" and "Help". When clicking "Menu", the ribbon bar related to Menu will be shown.

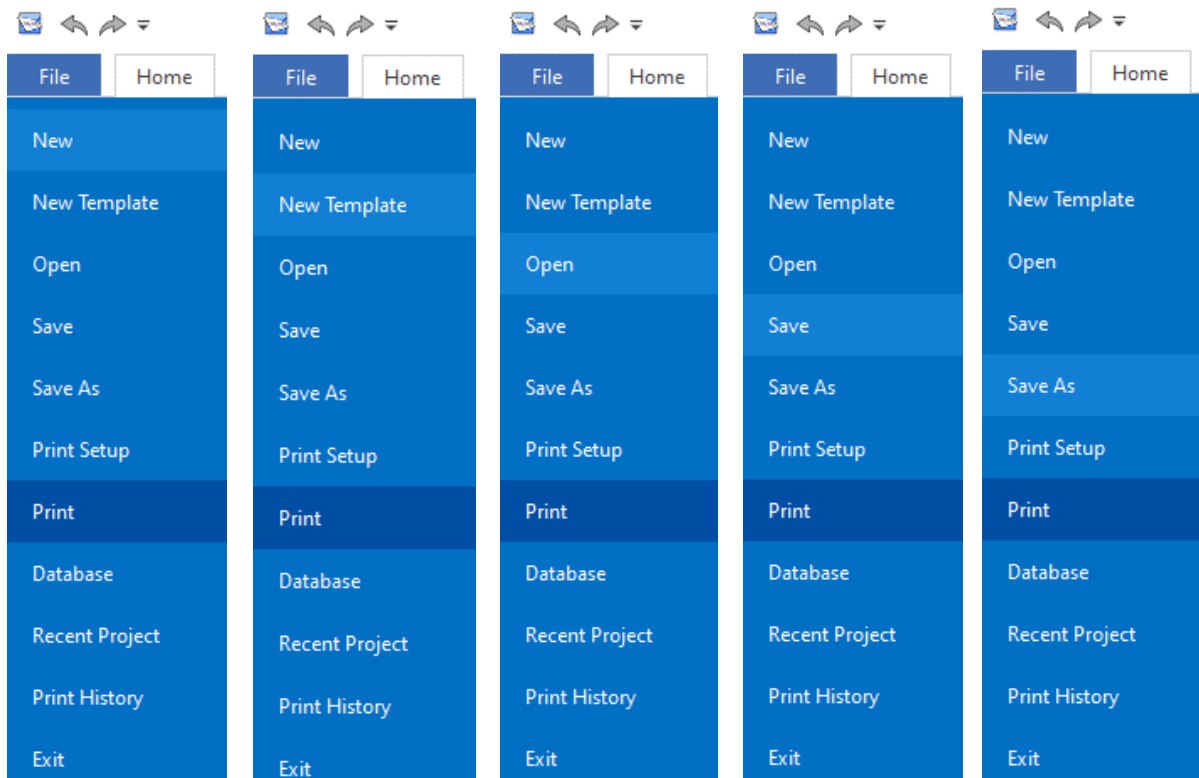
When SMART IDesigner is run, "Home" ribbon bar will be shown basically. There are essential tools in "Home" in order to use SMART IDesigner. For further information for each ribbon bar, please refer to the follow chapter.

Drawing area allows you to edit various objects such as rectangle, circle, line, image, text and barcode on the card with CR-80 (54mm x 86mm) size on the screen.

Properties area allows you to see the properties of selected objects in detail and edit conveniently.

6.1 File Tab

6.1.1 New Project/Template/Open/Save/Save As

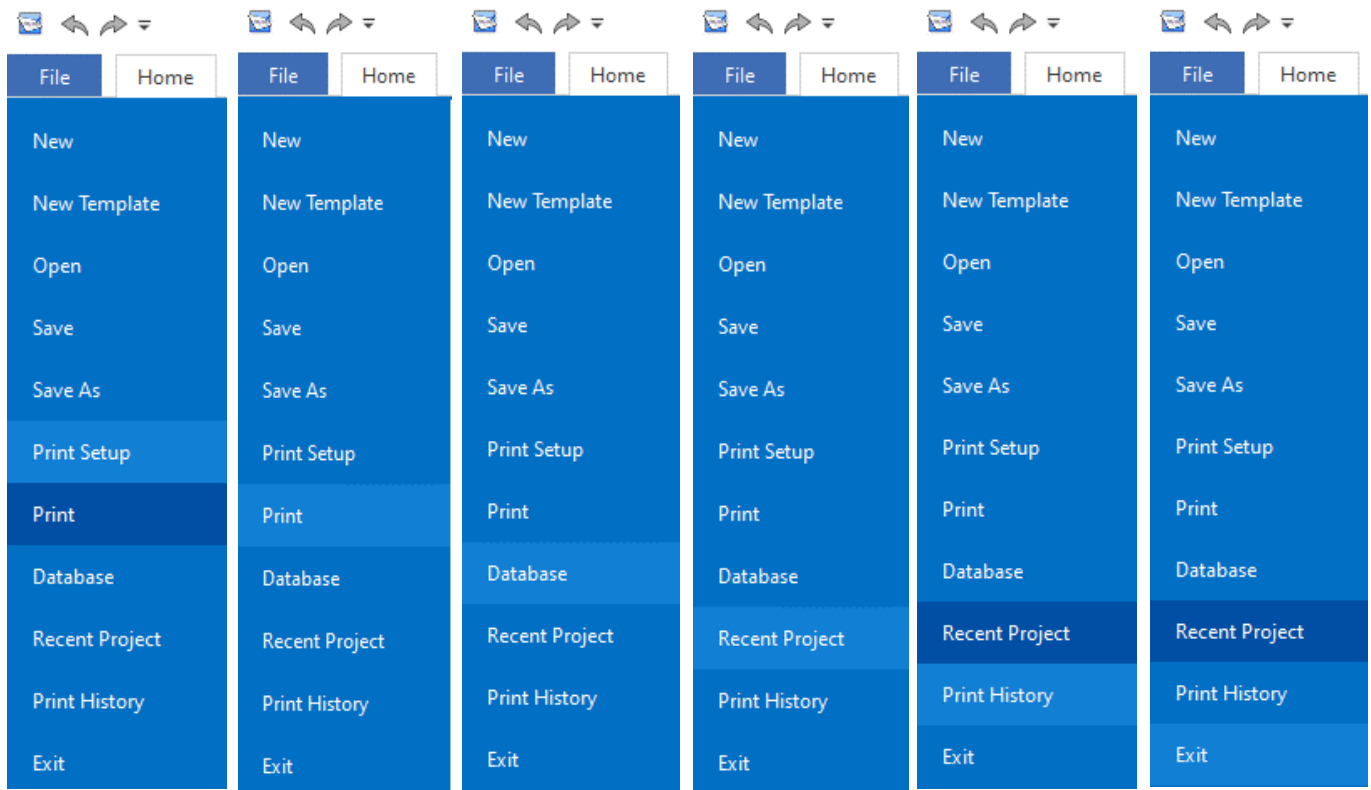


<FIGURE> 63 - FILE TAB MENU COLLECTION 1

- **New Project :** To create a new card design, click the "New" button. Please refer to the 3.1.2 for details.

- **Template** : To create a new card design using a design template, click the "New Template" button. Please refer to the 3.1.1 for details.
- **Open** : Click the "Open" button to select a project or design file and open it. When selecting a CSP file, all files for project in same directory is open. But, if a CSD file is selected, only design file is open. When opening the CSD file, new project will be saved later. The CSP file of Smart ID was used as a database by the MDB file. When opening older versions of CSP files in SMART IDesigner, you can convert them to an improved database, SQLite DB.
- **Save** : When clicking "Save" button, active project is saved. When starting with "New Project" or "Open CSP file", the project is saved in the appointed location automatically. When not creating project or using "Open CSD file", "New Project" window will be shown and saved as new project.
- **Save As** : When clicking "Save as" button, active file will be saved with new name.

6.1.2 Print Setup/Print/Database/Recent Project/Print History/Exit

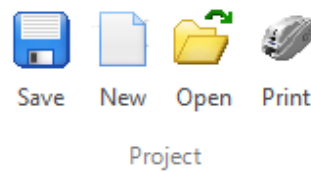


<FIGURE> 64 - FILE TAB MENU COLLECTION 2

- **Print Setup** : The properties for printing such as printing direction, ribbon option, etc. are set up. Refer to the printer driver manual for detailed information.
- **Print** : When clicking "Print" button, design is printed by card printer. This printing is used to check the status of design. When printing a large number of cards through database, "Print" button of "Database" menu is used.
- **Database** : "Database" is used to import external data or export data of project. SMART IDesigner can use data of DB or XLS type.
- **Recent Project** : Open the log that records the printing history from C:\smartlog\PrintLog. The log saved a monthly history of printing in files named like YYYYMM.log.
- **Print History** : The list of the latest projects will be shown.
- **Exit** : When clicking "Exit" button or [X] button of window, SMART IDesigner is closed. When there is a change in design or database, the question about whether saving a current project or not will be displayed.

6.2 Home Tab

6.2.1 Project



<FIGURE> 65 – PROJECT MENU ON HOME TAB

1) Save

Active project is saved. The project have CSD, CSP, DB files for SMART IDesigner program.

2) New

New project is begun. When creating a new project, directory to be saved is set by project name and directory.

3) Open

Project file (.CSP) or Design file (.CSD) is imported. When opening a CSP file, card can be issued promptly because design and database in project are open together. If opening only a CSD file, database-related functions are not available.

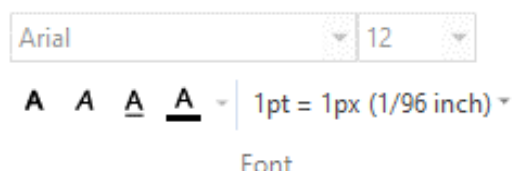
In case of the CSP file which is created in Smart ID, the MDB file is used as the database. When the CSP file of Smart ID is opened, the enhanced database, it can be converted to SQ List DB file.

4) Print

The design is printed by card printer.

"Print" is used to check the design. When printing by linking to database, "Print" of "Database" tab should be pressed.

6.2.2 Font



<FIGURE> 66 – FONT MENU ON HOME TAB

1) Font List

Select the font type or the barcode type. You can see all possible font types in Windows or all barcode lists supported in this program.

2) Font Size

Set the font size of text object or barcode object.

3) Bold

Make a bold font. It is activated when the text object is selected. Click the icon or press "Ctrl" key with "B" key to make font bold.

4) Italic

Make an italic font. It is activated when the text object is selected. To make an italic effect, click the icon or press "Ctrl" with "I" key.

5) Underline

Underline a font. It is activated when the text object is selected. To make an underline effect, click the icon or press "Ctrl" with "U" key.

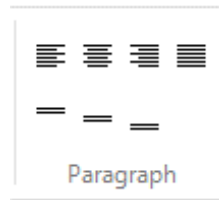
6) Font Color

Set the font color of the text object or the barcode color of the barcode object. If click the left side of icon, the color is applied. If press the right downside arrow. You can select the desired color to apply to the text object or barcode object.

7) Point Size Setting

The default font size is set to 1px x 1pt. You can change the setting.

6.2.3 Paragraph



<FIGURE> 67 – PARAGRAPH MENU ON HOME TAB

1) Left Alignment

Text is aligned on the left side. If the text box width is shorter than the characters, the characters on the right side that over the width will not be shown.

2) Horizontal Center Alignment

Text is aligned on the center. If the text box width is shorter than the characters, the characters on the right side that over the width will not be shown.

3) Right Alignment

Text is aligned on the right side. If the text box width is shorter than the characters, the characters on the right side that over the width will not be shown.

4) Justified Alignment

Text is aligned on the same distance between the characters.

5) Top Alignment

Text is aligned on the top side. If the text box vertical width is shorter than the characters, the characters on the below side that over the vertical width will not be shown.

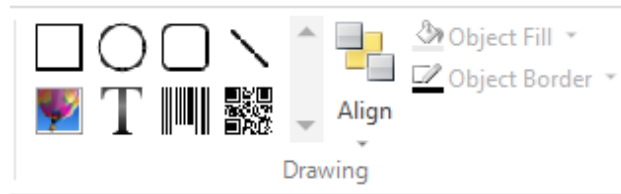
6) Vertical Center Alignment

Text is aligned on the middle. If the text box vertical width is shorter than the characters, the characters above and below side on the right side that over the vertical width will not be shown.

7) Bottom Alignment

Text is aligned on the bottom side. If the text box vertical width is shorter than the characters, the characters on the above side that over the vertical width will not be shown.

6.2.4 Drawing



<FIGURE> 68 – DRAWING MENU ON HOME TAB

1) Rectangle Tool

Draw a rectangle. If you select this icon, the cursor will be changed to + shape. The object is set as color panel. If the current document cannot use a color panel, it will be set to a black and white panel.

2) Ellipse Tool

Draw an oval. If you select this icon, the cursor will be changed to + shape. The object is set as color panel. If the current document cannot use a color panel, it will be set to a black and white panel.

3) Round Rectangle Tool

Draw a rounded rectangle. If you select this icon, the cursor will be changed to + shape. The object is set as color panel. If the current document cannot use a color panel, it will be set to a black and white panel.

4) Line Tool

Draw a straight line. If you select this icon, the cursor will be changed to + shape. The object is set as color panel. If the current document cannot use a color panel, it will be set to a black and white panel.

5) Image Tool

Insert an image. Select the image when the image selecting dialog box is open. The object is set as color panel. If the current document cannot use a color panel, it will be set to a black and white panel. Right-clicking on the image shape and selecting the "Change Image" menu will popup a file explorer.

6) Text Tool

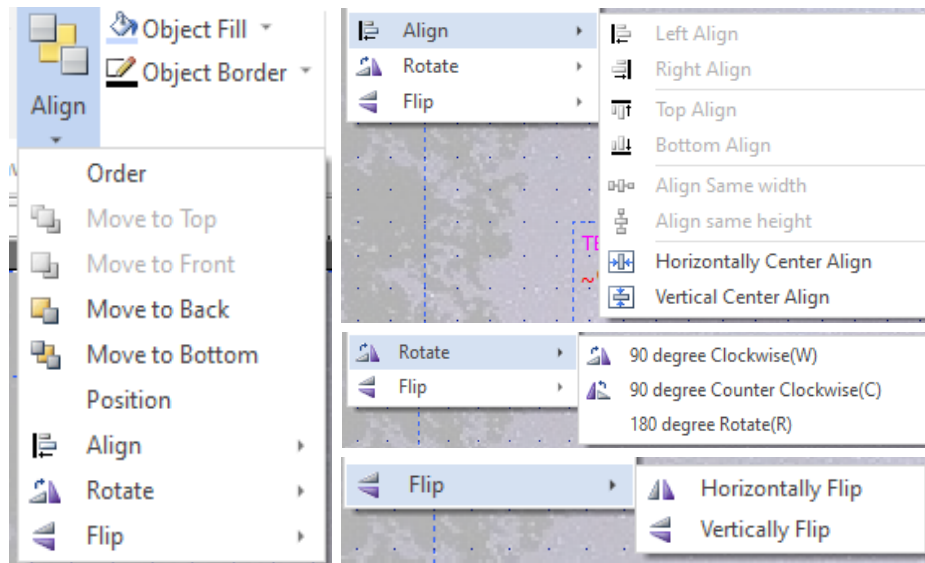
Make a text box. Input text when text input dialog box is open. The object is set as black panel. You can edit the content by right-clicking on the text shape and selecting the 'Edit' menu.

7) 1D Barcode Tool

Make a barcode. Input data when data input dialog box is open. The object is set as black panel. You can change the data by right-clicking on the text shape and selecting the "Revise" menu.

8) 2D Barcode Tool

Make a 2D barcode. The method of data input is same as barcode.



<FIGURE> 69 – ALIGNMENT MENU ON HOME TAB

9) Move To Top

Move the selected object to the top.

10) Move To Front

Move the selected object to one step up.

11) Move To Back

Move the selected object to one step down.

12) Move To Bottom

Move the selected object to bottom.

13) Left Align

Align the selected objects to the left of standard object.

14) Right Align

Align the selected objects to the right of standard object.

15) Top Align

Align the selected objects to the top of standard object.

16) Bottom Align

Align the selected objects to the bottom of standard object.

17) Align Same Width

Align the distance of the selected objects in horizontally same distance.

18) Align Same Height

Align the distance of the selected objects in vertically same distance.

19) Horizontally Center Align

Move the selected objects to the horizontal center.

20) Vertical Center Align

Move the selected objects to the vertical center.

21) 90 degrees Clockwise

Rotate the selected objects 90 degrees clockwise.

22) 90 degrees Counterclockwise

Rotate the selected objects 90 degrees counterclockwise.

23) 180 degrees Rotate

Rotate the selected objects 180 degrees counterclockwise.

24) Horizontally Flip

Reverse the selected objects right and left.

25) Vertically Flip

Reverse the selected objects upside down.

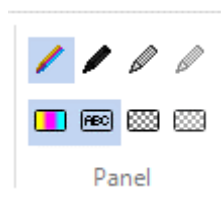
26) Object Fill

Set the background color of the selected object. Click the left part of the button to apply the last used fill value to the selected object (this is reset when the program starts). If click the right downside arrow, you can see the color table popup.

27) Object Border

Set the outline color of the selected object. Click the left part of the button to apply the last used border value to the selected object (this is reset when the program starts). click the right downside arrow, you can see the color table popup.

6.2.5 Panel



<FIGURE> 70 – PANEL MENU ON HOME TAB

1) Set as Color Panel

Set as color panel for the selected object. If the installed ribbon is not color ribbon, this icon will not be activated. When the object is set as color panel, the blue color is applied to the object.

2) Set as Black Panel

Set as black panel for the selected object. Text and barcode are set as black panel at default. The background, outline and font will be changed to gray color. For the image object, the dithering effect will be applied. If the object is set as black panel, the square of outline will be black color.

3) Set as Overlay Panel

If you click Overlay Panel icon after select the object, overlay will not be applied to that object. The Image, text and barcode are not overlaid if this icon is clicked. When the object is set as overlay panel, the square of outline will be changed to gray color.

4) Set as Fluorescent Panel

If you click Fluorescent Panel icon after select the object, fluorescent will be applied to that object. The Image, text and barcode are fluoresced if this icon is clicked. Fluorescent panels are available only if the ribbon used by your printer include a fluorescent panel. When the shape is set to Fluorescent Panel, the color of the selection box will be white.

5) Display Color Panel

You can see all objects which are set as color panel.

6) Display Black Panel

You can see all objects which are set as black & white panel.

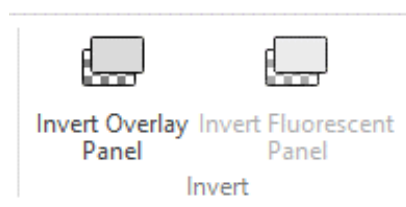
7) Display Overlay Panel

All overlay panels can be seen. The overlaid area will be displayed darker than not overlaid area.

8) Display Fluorescent Panel

All fluorescent panels can be seen. The fluoresced area will be displayed more blue printed than not fluoresced area.

6.2.6 Invert



<FIGURE> 71 - INVERT MENU ON HOME TAB

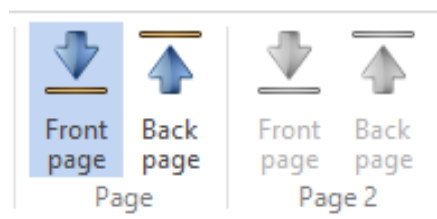
1) Invert Overlay Panel

Basically, overlay is supplied to all surface of card. In case of the text, drawing and image object, the contents will not be overlaid. If you want to invert this, click this icon.

2) Invert Fluorescent Panel

The fluorescent panel is set to not print the entire side of the card by default. When you select text, a drawing shape, or an image shape on the fluorescent panel, the area that is highlighted in blue will be printed on the fluorescent panel. If you want to invert this, click this icon.

6.2.7 Page



<FIGURE> 72 – PAGE MENU ON HOME TAB

1) Front Page

This SMART card printer can print the front side and back side. It can be set by the printer setup. The icon will be activated when the related side is under designing.

"Page2" is activated when the Slave printer or the laser engraver is connected.

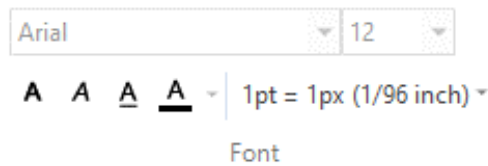
This SMART card printer can print the front and back.

2) Back Page

You can design the back side of the card using this icon. It will be activated when the printing setup is both-side printing. "Page2" is activated when the Slave printer or the laser engraver is connected.

6.3 Drawing Tab

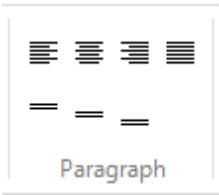
6.3.1 Font



<FIGURE> 73 – FONT MENU ON DRAWING TAB

Please refer to the Chapter 6.2.2.

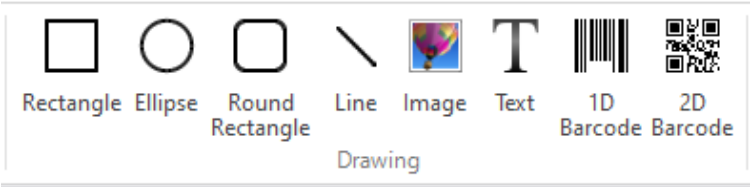
6.3.2 Paragraph



<FIGURE> 74 – PARAGRAPH MENU ON DRAWING TAB

Please refer to the Chapter 6.2.3.

6.3.3 Drawing



<FIGURE> 75 - DRAWING MENU ON DRAWING TAB

Please refer to the Chapter 6.2.4.

6.3.4 Align



<FIGURE> 76 - ALIGN MENU ON DRAWING TAB

Please refer to the Chapter 6.2.4.

1) Same Width Adjustment

Change the width of the selected objects same as the standard object.

2) Same Height Adjustment

Change the height of the selected objects same as the standard object.

3) Same Size Adjustment

Change the size of selected objects same as the standard object.

6.4 Edit Tab

6.4.1 Undo/Redo



<FIGURE> 77 – UNDO/REDO MENU ON EDIT TAB

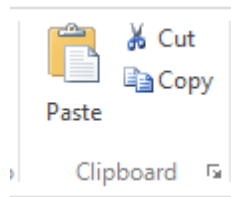
1) Undo

Reverse the last command. Shortcut (Ctrl + Z).

2) Redo

Reverse the action of the "Undo". Shortcut (Ctrl + Y).

6.4.2 Clipboard



<FIGURE> 78 - CLIPBOARD MENU ON EDIT TAB

1) Paste

Paste the cut or copied object. Shortcut (Ctrl + V).

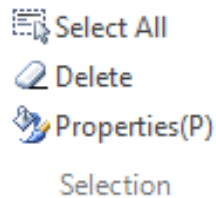
2) Cut

Remove the selection from the design and place it in the clipboard. Available only in SMART IDesigner. Shortcut (Ctrl + X or Shift + Delete).

3) Copy

Copy the selected object in the clipboard. Available only in SMART IDesigner. Shortcut (Ctrl + C).

6.4.3 Selection



<FIGURE> 79 – SELECTION MENU ON EDIT TAB

1) Select All

Select all objects in active design. Shortcut (Ctrl + A).

2) Delete

Delete selected object.

3) Properties

Double-click on the selected object or press Alt+Enter key. A window will appear. The contents of the object properties depend on the kind of selected object. To apply background color, line color, line type and line thickness to the new object created from now on, click the "Set the properties to the new object".

Please refer to the Chapter 3.2.1 for details.

6.4.4 Image



<FIGURE> 80 – IMAGE MENU ON EDIT TAB

1) Contrast Up

Contrast up to the selected image object.

2) Sharply Contrast Up

Sharply Contrast up to the selected image object.

3) Contrast Down

Contrast down to the selected image object.

4) Sharply Contrast Down

Sharply Contrast down to the selected image object.

5) Brightness Up

Brightness up to the selected image object.

6) Sharply Brightness Up

Sharply Brightness up to the selected image object.

7) Brightness Down

Brightness down to the selected image object.

8) Sharply Brightness Down

Sharply Brightness down to the selected image object.

9) Zoom In

Zoom in the image. The zoom range can be adjusted in the "Zoom step" menu of the "Options" tab.

10) Sharply Zoom In

Sharply zoom in the image. The zoom range can be adjusted in the 'Zoom Step' menu of the 'Options' tab.

11) Zoom Out

Zoom out the image. The zoom range can be adjusted in the 'Zoom Step' menu of the 'Options' tab.

12) Sharply Zoom Out

Sharply zoom out the image. The zoom range can be adjusted in the 'Zoom Step' menu of the 'Options' tab.

13) Move Left

Move the image to the left direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

14) Sharply Move Left

Sharply move the image to the left direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

15) Move Right

Move the image to the right direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

16) Sharply Move Right

Sharply move the image to the right direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

17) Move Up

Move the image to the upper direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

18) Sharply Move Up

Sharply move the image to the upper direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

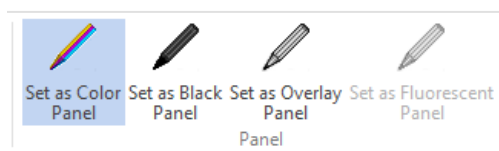
19) Move Down

Move the image to the down direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

20) Sharply Move Down

Sharply move the image to the down direction. The range of movement can be adjusted in the 'Zoom Step' menu in the 'Options' tab.

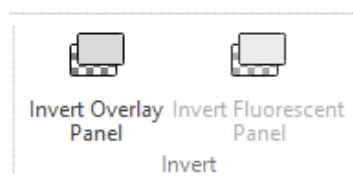
6.4.5 Panel



<FIGURE> 81 – PANEL MENU ON EDIT TAB

Please refer to the Chapter 6.2.5.

6.4.6 Invert

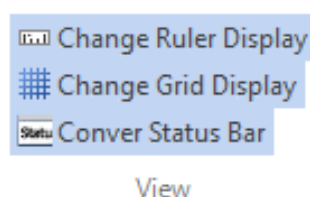


<FIGURE> 82 – INVER MENU ON EDIT TAB

Please refer to the Chapter 6.2.6.

6.5 View Tab

6.5.1 View



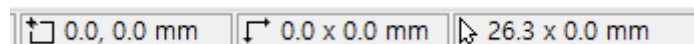
<FIGURE> 83 – VIEW MENU ON VIEW TAB

1) Change Ruler Display

Select whether the display of Ruler or not.

2) Change Grid Display

Select whether the display of Grid dot is shown or not.



<FIGURE> 84 – STATUS BAR

3) Convert Status Bar

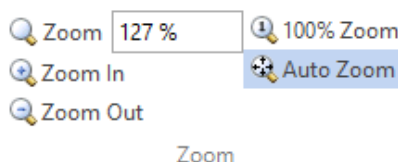
Select whether the status bar is shown or not. Status bar shows the information of position of mouse cursor and explanation of ribbon bar.

First icon considers all the selected objects as one. Display the starting point in unit of millimeter.

Second icon considers all the selected objects as one. Display the width and height in unit of millimeter.

Third icon displays the current position of the mouse cursor in millimeters.

6.5.2 Zoom



<FIGURE> 85 – ZOOM MENU ON VIEW TAB

1) Zoom

Show the card size you input. You can change the view ratio by entering a number in the input field next to the icon.

2) Zoom In

Zoom in the card layout. It can also use the "+" key on your keypad.

3) Zoom Out

Zoom out the card layout. It can also use the "-" key on your keypad.

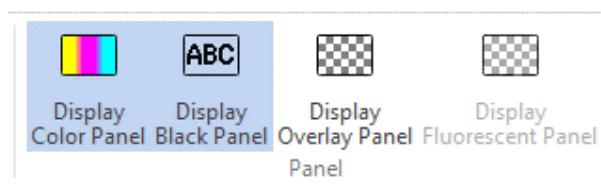
4) 100% Zoom

Show the original size design.

5) Auto Zoom

Fit the size of design panel to the window. As the window size changes, the rate of "Zoom In/Out" will be changed automatically.

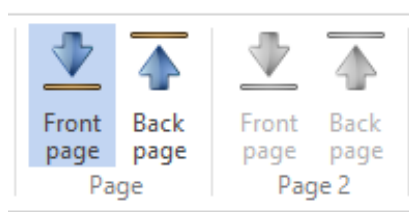
6.5.3 Panel



<FIGURE> 86 – PANEL MENU ON VIEW

Please refer to the Chapter 6.2.5.

6.5.4 Page

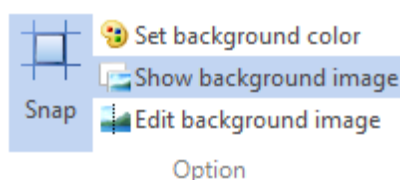


<FIGURE> 87 – PAGE MENU ON VIEW

Please refer to the Chapter 6.2.7.

6.6 Option Tab

6.6.1 Option



<FIGURE> 88 – OPTION MENU ON OPTION TAB

1) Snap

Make cursor move at regular interval. The "Snap" function makes it easy to align multiple shapes when resizing or moving them.

2) Set Background Color

Select the default color for background. Different colors are available for the front and back sides. The default background color is white. If you use a black and white ribbon on your printer, be careful not to print messily when specifying colors.

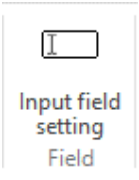
3) Show Background Image

Click to print or not background image. If you are using a black and white ribbon on your printer, be careful to set a background image as this may result in messy printing.

4) Edit Background Image

Edit the background image. To change from background image editing mode to normal editing mode, click "Edit Background Image" again, or click outside of background image. Only one image for one side is available and it could be printed.

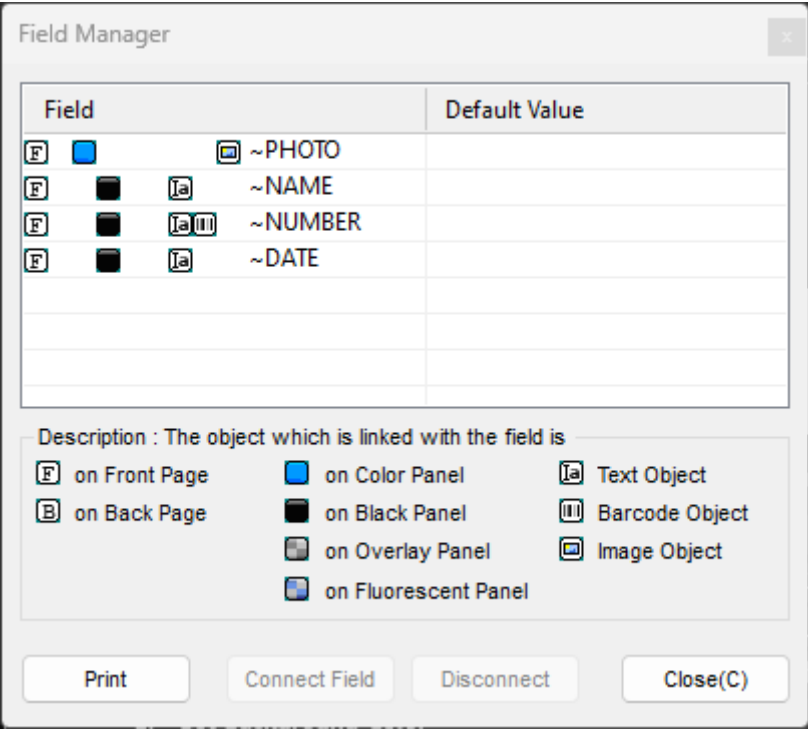
6.6.2 Field



<FIGURE> 89 – FIELD MENU ON OPTION TAB

1) Input Field Setting

This function is used for mass issuing like membership cards, student ID cards and national ID cards, etc. If you click this button, "Field Manager" window is displayed.



<FIGURE> 90 - INPUT FIELD SETTING WINDOW

Clicking the "Set Input Fields" button will open the "Field Manager" window.

6.6.3 Size



<FIGURE> 91 - SIZE MENU ON OPTION TAB

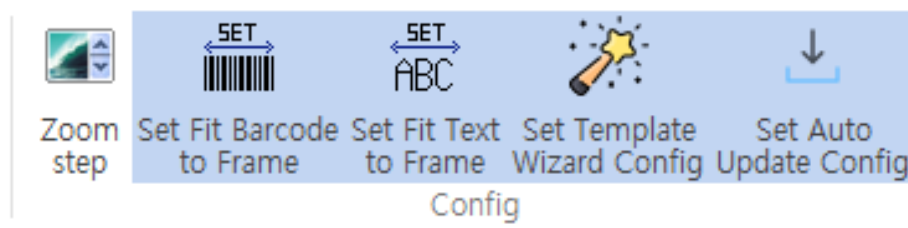
1) Fit Barcode to Frame

If you click this button, it will automatically change the barcode size to fit to frame size.

2) Fit Text to Frame

If you click this button, it will automatically change the text size to fit to frame size.

6.6.4 Config



<FIGURE> 92 - CONFIG MENU ON OPTION TAB

1) Zoom Step

Set the change ratio for the image zoom up / down or image movement.

1) Set Fit Barcode to Frame

For future barcode shapes, enable or disable the "Fit Barcode to Frame" option. This setting will be retained even after the program is closed.

2) Set Fit Text to Frame

For future text shapes, enable or disable the "Fit Text to Frame" option. This setting will be retained even after the program is closed.

3) 템플릿 마법사 설정

Configure whether the Template Wizard window opens when the program is launched for the first time. This setting will be retained even after the program is closed.

4) 자동 업데이트 설정

Configure whether the program checks for the latest version and performs an automatic update when launched for the first time. This setting will be retained even after the program is closed.

6.6.5 Laser Engraver



<FIGURE> 93 - LASER ENGRAVER MENU ON OPTION TAB

1) Laser

To use the laser engraver, click the "Laser" button. When the laser engraver is enabled, design the content on page 2 of the "Home" tab.

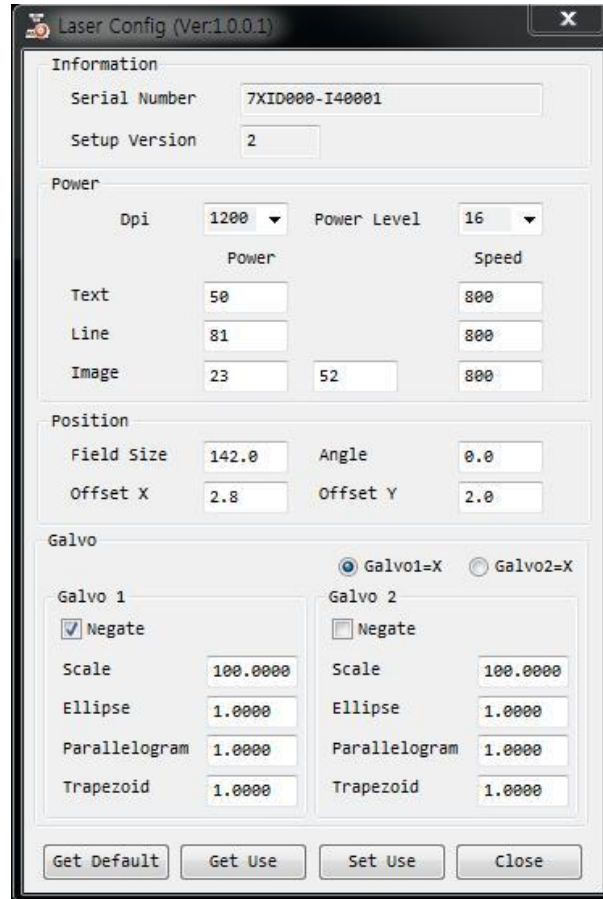
Basically the laser engraver uses the default configuration values in the laser engraver.

However, the user can configure the laser power, speed and angle on each object. If it is not set, the object uses the default setting value.

- **Power** : Set the power of laser. The range is 0~100, it is a percentage of the maximum value.
- **Speed** : The range is 0~1600 (mm/s), the speed of movement of the laser.
- **Angle** : To support MLI(Multiple Laser Image) or CLI(Changeable Laser Image) function, the card is rotated and engraved. SMART-70X can support CLI, WISE-LE can support MLI. The range is -40 ~ -20, 20 ~ 40.

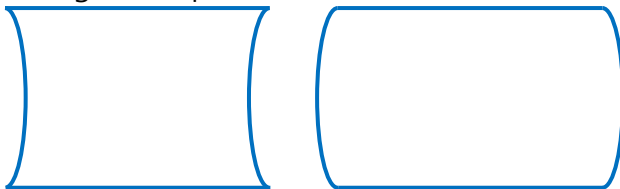
2) Setup

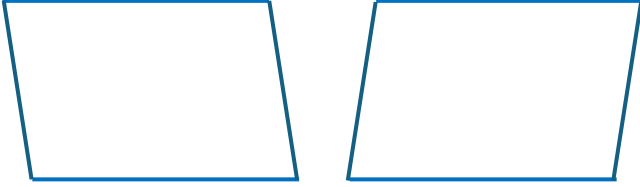

The default setting of the laser engraver is available. The values are saved in the laser engraver. Click the 'Laser Engraver Settings' button, and the "Laser Configuration" window will appear as shown below.



<FIGURE> 94 – LASER CONFIG WINDOW

Laser Information	
Serial Number	Show a serial number of Laser engraver.
Setup Version	Show a version of configuration for Laser engraver.
Power	
DPI	Select the resolution of laser engraving between 600 dpi / and 1200 dpi.
Power Level	Set the power level of the laser. Range : 1~25 <ul style="list-style-type: none"> • If the value is larger, the power level is bigger and engrave darker. • The below value as 'Text', 'Line', 'Image' is changed automatically if the power level is changed.
Text	Set the power and speed when the text or barcode is engraved. <ul style="list-style-type: none"> • Range of Power is 0~100, it is a percentage of the maximum value. • Range of Speed is 0~1600, the speed of movement of the laser.

Line	Set the power and speed when the line or figure is engraved. <ul style="list-style-type: none"> • Range of Power is 0~100, it is a percentage of the maximum value. • Range of Speed is 0~1600, the speed of movement of the laser.
Image	Set the power and speed when the portrait or logo is engraved. Image is expressed by gray level, the minimum and maximum value of power are set. <ul style="list-style-type: none"> • Range of Power is 0~100, it is a percentage of the maximum value. • Range of Speed is 0~1600, the speed of movement of the laser..
Position	
Field Size	Set the maximum size for laser engraving. <ul style="list-style-type: none"> • Range of Field Size is 120~150, the unit is mm. • The size of the output is changed if Field Size is changed.
Angle	Set the rotation value for laser engraving. <ul style="list-style-type: none"> • Range of Angle is 0~360, the unit is degree. • The output is rotated as a value of Angle.
Offset X	Set position to the right and left properly. <ul style="list-style-type: none"> • Range of Offset X is -10~10, the unit is mm. • The position of output is changed by left or right depending on this value.
Offset Y	Set position to the up and down properly. <ul style="list-style-type: none"> • Range of Offset X is -10~10, the unit is mm. • The position of output is changed by up or down depending on this value.
Galvo	
Negate	Engrave after reflection of the image across a defined axis.
Scale	Set the scale of the image for each axis. <ul style="list-style-type: none"> • Range of Scale is 0~100, the unit is a percentage (%).
Ellipse	Calibrate image result in the shape of an ellipse. <ul style="list-style-type: none"> • Range of Ellipse is 0.875~1.125.  <ul style="list-style-type: none"> • The image is deformed depending on value of Ellipse as below.
Parallelogram	Calibrate image result in the shape of a parallelogram. <ul style="list-style-type: none"> • Range of Parallelogram is 0.875~1.125.

	 <ul style="list-style-type: none"> • The image is deformed depending on value of Parallelogram as below.
Trapezoid	<p>Calibrate image result in the shape of a trapezoid.</p> <ul style="list-style-type: none"> • Range of Trapezoid is 0.875~1.125.  <ul style="list-style-type: none"> • The image is deformed depending on value of Trapezoid as below

- **Load Default Button** : Load factory configuration values in the memory of laser engraver. To apply it, click a 'Store' button.
- **Reload Button** : Show the configuration values in the laser engraver Use "Reload" to reload the current settings while changing values.
- **Store Button** : Save current values to the laser engraver.
- **Close Button** : Exit a LaserConfig utility.

6.6.6 Language



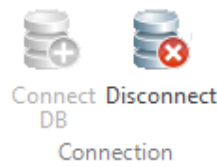
<FIGURE> 95 - LANGUAGE MENU ON OPTION TAB

1) Language

Change language to use.

6.7 Database Tab

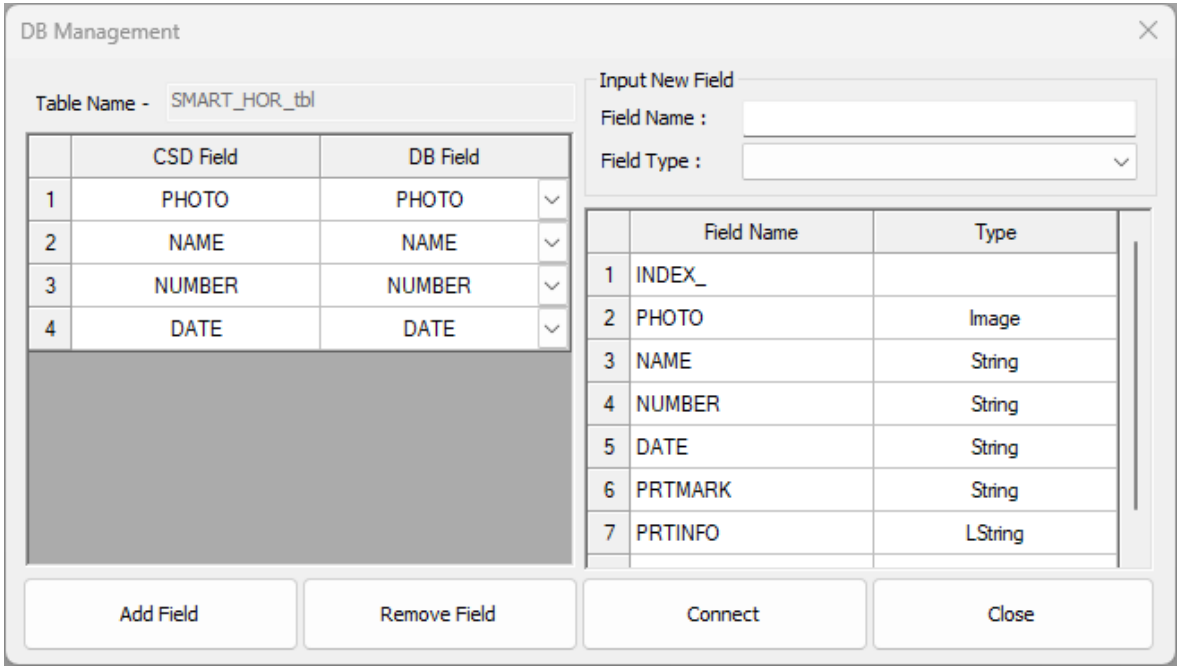
6.7.1 Connection



<FIGURE> 96 – CONNECTION MENU ON DATABASE TAB

1) Connect DB

Connect DB is used to manually connect print fields to DB fields. You can add or delete fields as needed. Also, the print field can be linked to new field.



<FIGURE> 97 – DB MANAGEMENT WINDOW

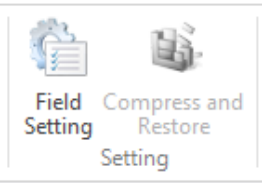
After clicking "Disconnect" button, when pressing "Connect DB", "DB Management" window will be displayed like figure 89. CSD Field is linked to DB Field on the left side of window and New Field can be created and deleted on the right side of window.

"Connect DB" is not used separately because SMART IDesigner creates DB Field and connects as same name when creating "Input Field".

2) Disconnect

When changing the current activated field setting of DB, Input field and DB Field can be linked manually by clicking "Connect DB" button after pressing "Disconnect" button.

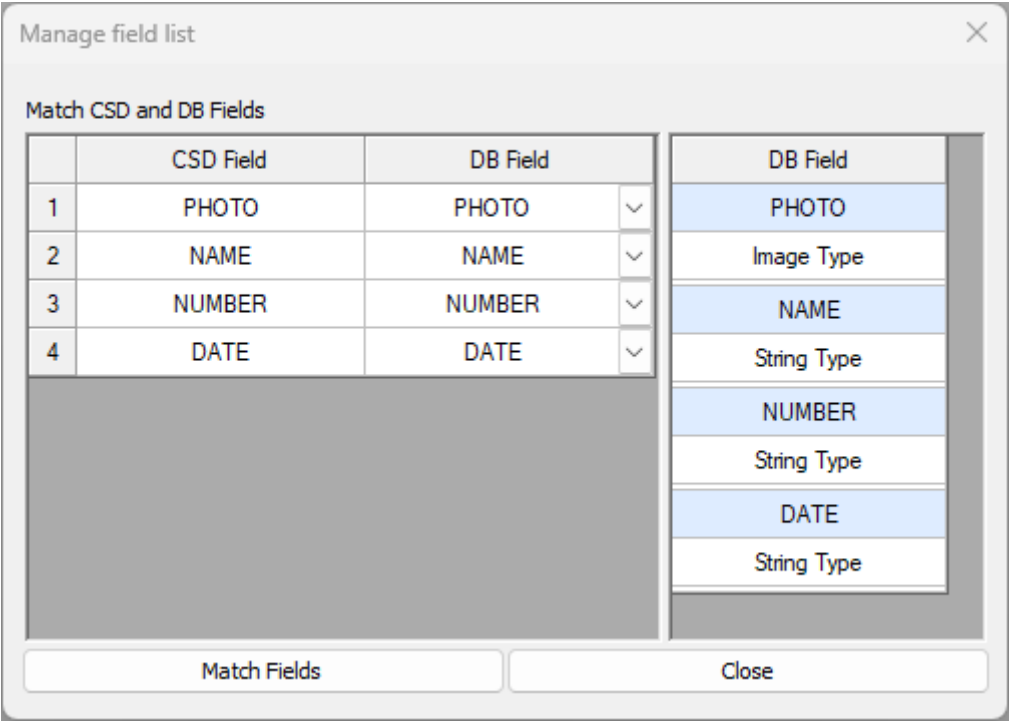
6.7.2 Setting



<FIGURE> 98 – SETTING MENU ON DATABASE TAB

1) Field Setting

Field Setting is used when connecting input field to another field without adding or deleting field. It is same as connecting field on “Input field” window.



<FIGURE> 99– MANAGE FIELD LIST WINDOW

When clicking “Field Setting”, “Manage field list” window will be displayed as shown the Figure 91. In this window, DB field connected to input field is appointed.

2) Compress and Restore

In case that database become huge or has abnormal symptom, “Compress and Restore” is used to compress and recover DB file.

6.7.3 Security

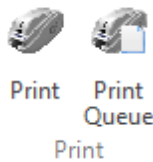


<FIGURE> 100 – SECURITY MENU ON DATABASE TAB

1) Password

This feature is currently not supported.

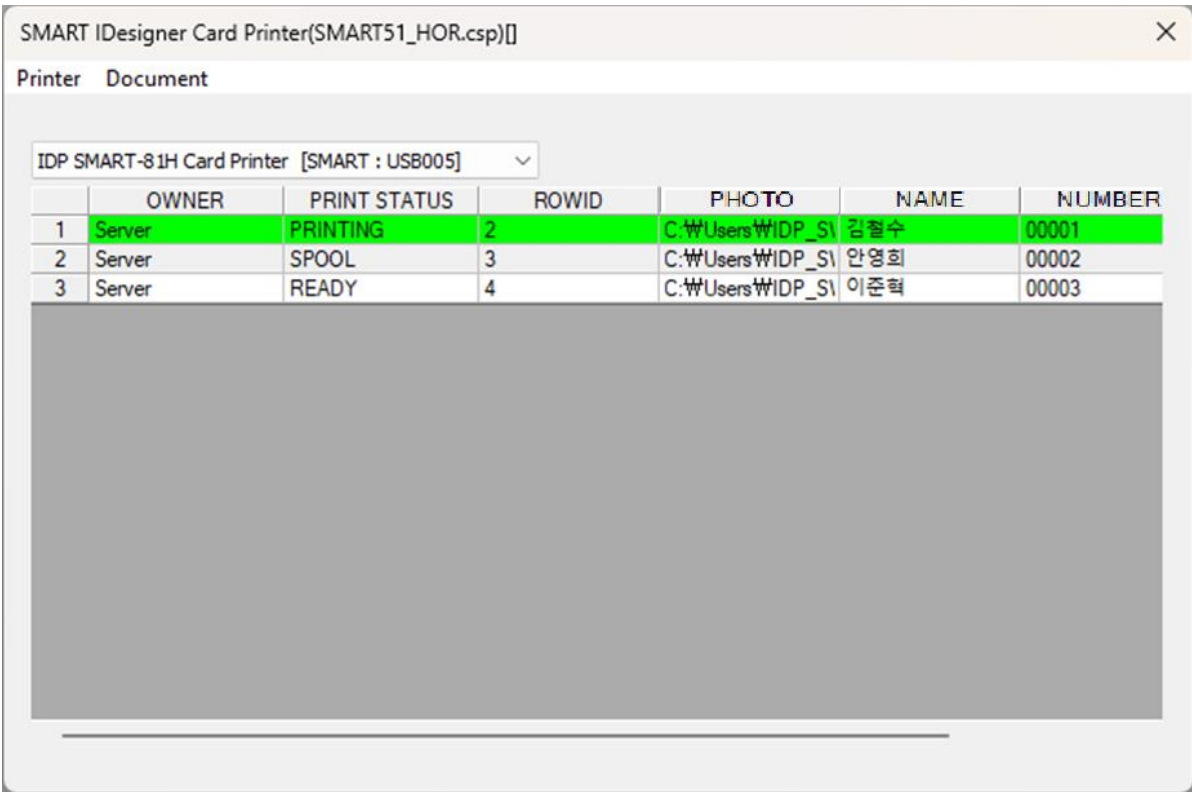
6.7.4 Print



<FIGURE> 101 – PRINT MENU ON DATABASE TAB

1) Print

The card is printed by using data entered in database. In order to print, cards to be printed are selected and marked as sky-blue. Then “Select Printer” window will be displayed as figure 94 when clicking “Print” button. Please refer to the Chapter 3.3.5.

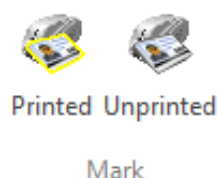


<FIGURE> 102 - PRINT QUEUE WINDOW

2) **Print Queue**

"Print Queue" shows printer status and print information. You can check and manage each connected printer from the combo box in the upper left corner.

6.7.5 Mark



<FIGURE> 103 - MARK MENU ON DATABASE TAB

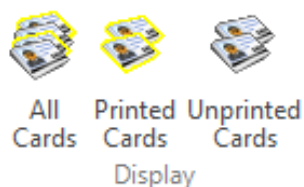
1) **Printed**

This button changes selected card to printed card.

2) **Unprinted**

This button changes selected card to unprinted card.

6.7.6 Display



<FIGURE> 104 – DISPLAY MENU ON DATABASE TAB

If there is a lot of card data registered in the database, you can view all cards, printed cards, and unprinted cards separately through the "Display" menu.

1) **All Cards**

This button shows both printed card and unprinted card in database.

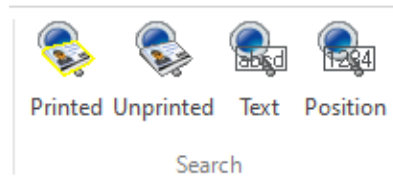
2) **Printed Cards**

This button shows only printed card in database.

3) **Unprinted Cards**

This button shows only unprinted card in database.

6.7.7 Search



<FIGURE> 105 – SEARCH MENU ON DATABASE TAB

1) Printed

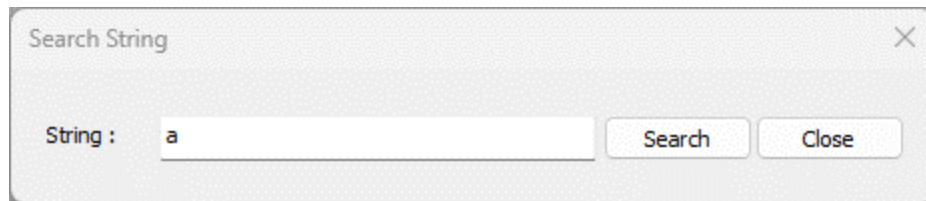
This button searches for and selects the nearest "printed card" among the cards following the currently selected card.

2) Unprinted

This button searches for and selects the nearest "unprinted card" among the cards following the currently selected card.

3) Text

When clicking "Text" button, "Search String" window will be displayed as shown the Figure 98.



<FIGURE> 106 – SEARCH STRING WINDOW

When entering the desired text in "Search String" window and clicking "Search" button, cursor moves to the card including inputted string.

4) Position

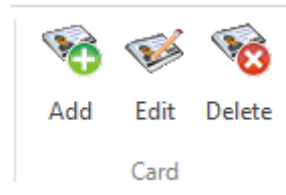
When clicking "Position" button, "Search Position" window will be displayed as shown the Figure 99.



<FIGURE> 107 – SEARCH POSITION

When entering the desired location in "Search Position" window and clicking "Search" button, cursor moves to the designated location.

6.7.8 Card



<FIGURE> 108 – CARD MENU ON DATABASE TAB

1) Add

When clicking "Add" button, "Add Card" window will be shown to enter new card data. Enter each field data in "Add Card" window.

2) Edit

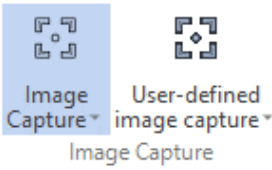
When clicking "Edit" button, "Edit Card" window appears to modify the position of card. Data is modified on "Edit Card" window.

3) Delete

When clicking "Delete" button, the selected card is deleted.

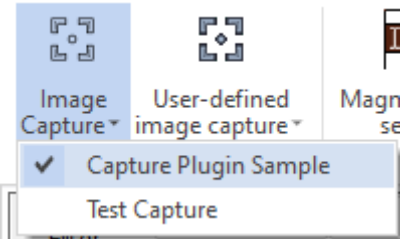
6.8 Plugin Tab

6.8.1 Image Capture



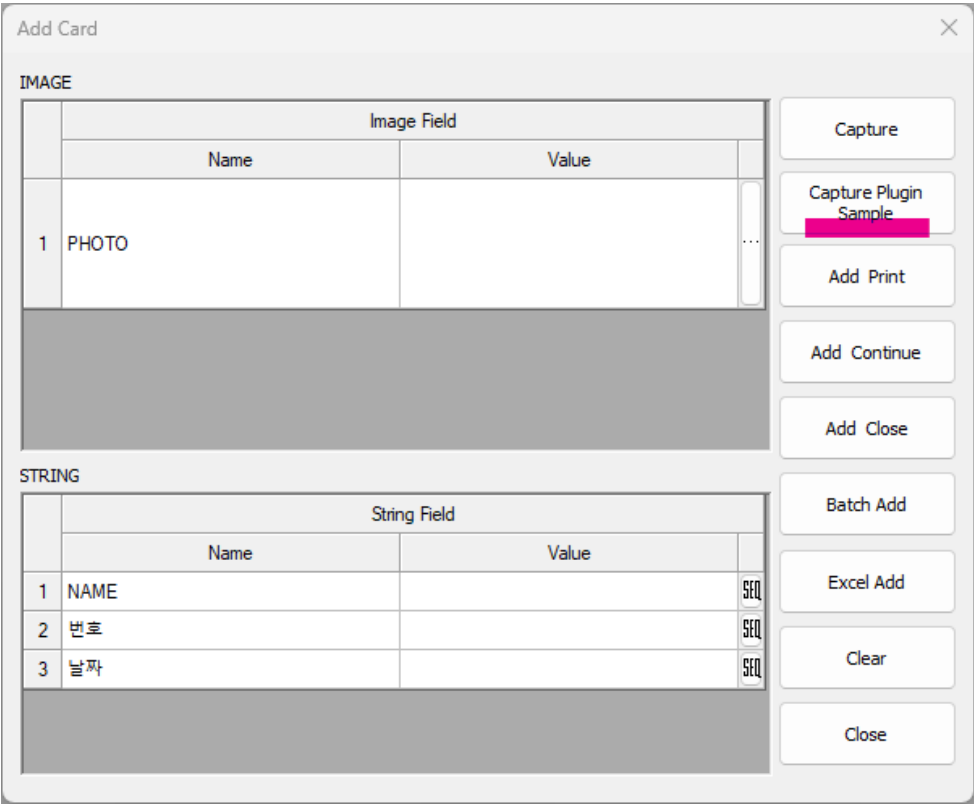
<FIGURE> 109 – IMAGE CAPTURE MENU ON PLUGIN TAB

1) Image Capture



<FIGURE> 110 – LIST OF IMAGE CAPTURE PLUGIN

Click "Image Capture" button to expand the built-in image capture options.



<FIGURE> 111 - IMAGE CAPTURE PLUGIN USAGE SCREEN

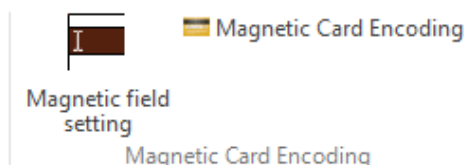
After selecting a built-in image capture option, you can use it through the 2nd button in the Add/Edit Card.

2) User-defined Image Capture

Click "User-defined Image Capture" button to expand the image capture options developed by user.

After selecting one of User-defined image capture options, you can use it through the 2nd button in the Add/Edit Card.

6.8.2 Magnetic Card Encoding



<FIGURE> 112 – MAGNETIC CARD ENCODING MENU ON PLUGIN TAB

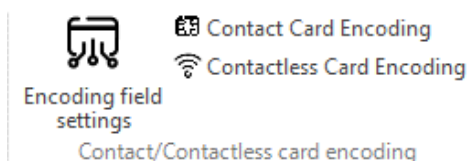
1) Magnetic Stripe Setting

Magnetic Setup window will pop up allowing you to set MS encoding options. (Refer to section 5.1).

2) Magnetic Card Encoding

Activate/deactivate the MS encoding function.

6.8.3 Contact/Contactless Card Encoding



<FIGURE> 113 – CONTACT/CONTACT LESS CARD ENCODING MENU ON PLUGIN TAB

1) Encoding Field Settings

Default Encoding Field Settings window will pop up allowing you to set a built-in Contact or Contactless card encoding options. (Refer to the section 5.2.1, 5.3.1)

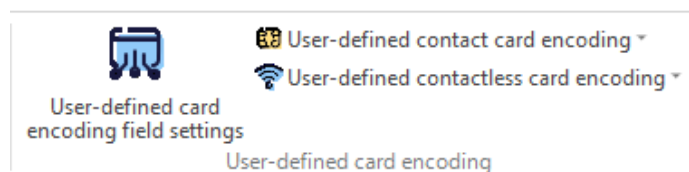
2) Contact Card Encoding

Activate/deactivate the built-in Contact card encoding function.

3) Contactless Card Encoding

Activate/deactivate the built-in Contactless card encoding function.

6.8.4 User-Defined Card Encoding



<FIGURE> 114 – USER-DEFINED CARD ENCODING MENU ON PLUGIN TAB

1) User-Defined Card Encoding Field Setting

User Encoding Field Settings window will pop up allowing to set User-Defined Contact or Contactless card encoding options. (Refer to section 5.2.2, 5.3.2)

2) User-Defined Contact Card Encoding

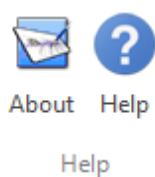
Activate/deactivate the user-defined contact card encoding function.

3) User-Defined Contactless Card Encoding

Activate/deactivate the user-defined contactless card encoding function.

6.9 Help Tab

6.9.1 Help



<FIGURE> 115 – HELP MENU ON HELP TAB

1) **About**

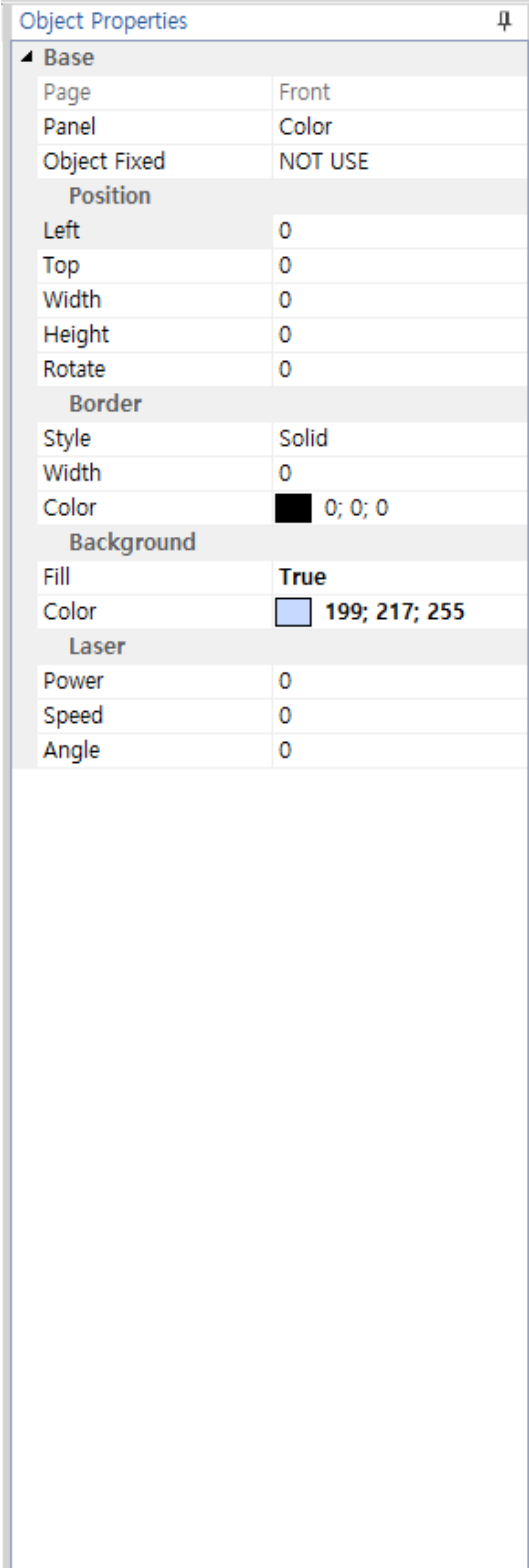
When clicking this button, program version, information, etc. will be shown.

2) **Help**

When clicking this button, SMART IDesigner user manual will be open. Requires Adobe Acrobat Reader or a program capable of viewing PDF documents.

7 Docking Panel

7.1 Object Properties





The 'Object Properties' window displays a list of properties for a selected object, organized into sections. The properties are as follows:

Object Properties	
Base	
Page	Front
Panel	Color
Object Fixed	NOT USE
Position	
Left	0
Top	0
Width	0
Height	0
Rotate	0
Border	
Style	Solid
Width	0
Color	0; 0; 0
Background	
Fill	True
Color	199; 217; 255
Laser	
Power	0
Speed	0
Angle	0

<FIGURE> 116 - OBJECT PROPERTIES

Properties Grid is "Object Properties" window on the right side of main window. You can see and modify the properties of selected object.

7.1.1 Base Category

Base	
Page	Front
Panel	Color
Object Fixed	NOT USE
Position	
Left	0
Top	0
Width	0
Height	0
Rotate	0
Border	
Style	Solid
Width	0
Color	 0; 0; 0
Background	
Fill	True
Color	 199; 217; 255
Laser	
Power	0
Speed	0
Angle	0

<FIGURE> 117 - BASE CATEGORY

It shows the information of position and color of object in Base Category. If several objects are selected and properties are different, the value is not displayed. If the value is modified in Properties Grid, selected objects are applied.

1) Base

- **Page** : It shows the page where selected object is. Read only.
- **Panel** : It shows the panel which selected object is printed on.
- **Object Fixed** : Used to fix or unfix objects.

2) Position

- **Left** : It means the distance from the left side of background to the object. The unit is dot, and the number of horizontal dots is 1012.
- **Top** : It means the distance from the top side of background to the object. The unit is dot, and the number of vertical dots is 636.
- **Width** : It means the width of the object. The unit is dot.
- **Height** : It means the Height of the object. The unit is dot.
- **Rotate** : It shows the value of angle of the object. Unit is 90 degrees. You can select the value among 0, 90, 180, 270 degrees. Rotates around the center point of the shape, and for image shapes, also rotates the size and offset values.

3) Border

- **Style** : It shows the line style selected.

- **Width** : It shows the line width selected. If Style is "no border", you can't change the value.
- **Color** : It shows the line color selected. If Style is "no border", you can't change the value.

4) Background

- **Fill** : It designates whether background color is filled or not.
- **Color** : It shows the background color. If "Background-Fill" is False, the value cannot be modified.

5) Laser

- **Power** : Enter the laser power in %.
- **Speed** : Enter the laser engraving speed in mm/s. The range is 1 to 1600.
- **Angle** : Specifies the angle to rotate for engraving MLI (Multiple Laser Image) or CLI (Changeable Laser Image). Each range is -40 to -20 and 20 to 40.

7.1.2 Extended Category – Round Rectangle



<FIGURE> 118 - EXTENDED CATEGORY: ROUND RECTANGLE

If the selected object is rounded rectangle, it shows the properties of rounded rectangle.

- **Corner Round** : It shows the value of edge in Rounded Rectangle. Unit is % and range is 1~100. If the value is 0, object shape is rectangle. If the value is 100, the short part of width or height is rounded without line.

7.1.3 Extended Category – Image

Extended	
Size	
Original Width	0
Original Height	0
Effect	
Auto Effect	False
Contrast	0
Brightness	0
Opacity	0
Color Mode	Color
Zoom & Position	
Auto Portrait	False
Scaling	Fit to Width of Frame
Width Zoom	100.00 %
Height Zoom	100.00 %
Horz. Align	Center
Vert. Align	Middle
Inside Left Offset	0
Inside Top Offset	0
Etc.	
Corner Round	0
Field	

<FIGURE> 119 - EXTENDED CATEGORY : IMAGE

1) Size

- **Original Width** : It shows the width size of the original image. Read only.
- **Original Height** : It shows the height size of the original image. Read only.

2) Effect

- **Auto Effect** : It shows whether Auto Effect is applied or not. Auto Effect is the function to adjust the brightness and contrast in a picture automatically. If the value is true, brightness and contrast is adjusted properly. Default is false.
- **Contrast** : It shows the value of Contrast. Range is -100 ~ 100. Default is 0. If the value is increased, image color changes primary color. If the value is decreased, image color changes gray color. If Auto Effect is True, this value is not applied. If you change this value when Auto Effect is True, the value is applied and Auto Effect changes False.
- **Brightness** : It shows the value of Brightness. Range is -255 ~ 255. Default is 0. If the value is increased, image color changes white. If the value is decreased, image color changes black. If Auto Effect is True, this value is not applied. If you change this value when Auto Effect is True, the value is applied and Auto Effect changes False.
- **Opacity** : Shows the transparency of the selected image shape. This value can be adjusted from 0 to 100%, with 0% making the image completely transparent.

- **Color Mode** : It shows the mode of color. You can select Color and Grayscale. Default is Color. If Auto Effect is True, this value is not applied. If you change this value when Auto Effect is True, the value is applied and Auto Effect changes False.

3) Zoom & Position

- **Auto Portrait** : Auto Portrait is the function to find the face in the Image automatically. If the value is true, the image is focused on the face and adjusted the size and position properly. Default is false.
- **Scaling** : It shows the mode of zoom. If you set Auto Portrait, this value is changed to "User Set". Default is "Fit to Width of Frame".
- **Width Zoom** : It shows the ratio of width of the image.
- **Height Zoom** : It shows the ratio of height of the image.
- **Horz. Align** : It shows the mode of Horizontal alignment. If this value is "Left", image shows from the left side in the frame. If this value is "Right", image shows from the right side in the frame. If this value is "Center", image shows on the center in the frame. The value of "Inside Left Offset" depends on this value. Default is Center.
- **Vert. Align** : It shows the mode of Vertical alignment. If this value is "Top", image shows from the top side in the frame. If this value is "Bottom", image shows from the bottom in the frame. If this value is "Middle", image shows on the middle in the frame. The value of "Inside Top Offset" depends on this value. Default is Middle.
- **Inside Left Offset** : It means the left offset value of start position of image in the frame.
- **Inside Top Offset** : It means the top offset value of start position of image in the frame.

4) Etc.

- **Corner Round** : It shows the value of edge in image. Unit is % and range is 1~100. If the value is 0, object shape is rectangle. If the value is 100, the short part of width or height is rounded without line.
- **Field** : It shows the field connected to image. If field is already connected to other text or barcode when the field is changed, you can't connect that field.

7.1.4 Extended Category – Text

Extended	
Inner Space	
Inner Left Space	0
Inner Top Space	0
Inner Right Space	0
Inner Bottom Space	0
Align	
Horz. Align	Center
Vert. Align	Middle
Option	
Auto Size	No Options
Font	
Font	Arial; 12pt
Color	0; 0; 0
Data	
Text	
Field	

<FIGURE> 120 - EXTENDED CATEGORY : TEXT

1) Inner Space

- **Inner Left Space** : It shows the value of inner left space of text in the frame.
- **Inner Top Space** : It shows the value of inner top space of text in the frame.
- **Inner Right Space** : It shows the value of inner right space of text in the frame.
- **Inner Bottom Space** : It shows the value of inner bottom space of text in the frame.

2) Align

- **Horz. Align** : It shows the mode of Horizontal alignment. If this value is "Left", text shows from the left side in the frame. If this value is "Right", text shows from the right side in the frame. If this value is "Center", text shows on the center in the frame. If this value is "Justify", text shows on the same distance between the characters. Default is Center.
- **Vert. Align** : It shows the mode of Vertical alignment. If this value is "Top", text shows from the top side in the frame. If this value is "Bottom", text shows from the bottom in the frame. If this value is "Middle", text shows on the middle in the frame. Default is Middle.

3) Option

- **Auto Size** : It shows whether Auto Size is applied or not. If this value is True, text size will automatically change the size to fit to frame size.


4) Font

- **Font** : It shows and changes the font type, style and size of text.
- **Color** : It shows and changes the font color of text.

5) Data

- **Text** : It shows the content of text.
- **Field** : It shows the field connected to text. If field is already connected to other image when the field is changed, you can't connect that field.

7.1.5 Extended Category – Barcode

Extended	
Barcode	
Type	Code39(1:2)
Size	0
Color	 0; 0; 0
Parameter	
Parameter 1	0
Parameter 2	0
Option	
Show Digit	Not Show
Auto Size	Not Use
Start Code	Not Use
Stop Code	Not Use
Data	
Data	
Zip Code	0
Field	

<FIGURE> 121 - EXTENDED CATEGORY : BARCODE

1) Barcode

- **Type** : It shows the type of barcode. If the barcode is 1D type, you can't change 2D barcode type. If the barcode is 2D type, you can't change 1D barcode type.
- **Size** : It shows the size of barcode.
- **Color** : It shows the color of barcode.

2) Parameter

- **Parameter 1** : It shows the value of "option 1" if the barcode type is 2D. It is inactivated if the barcode type is 1D. This means of value depends on 2D barcode type.
- **Parameter 2** : It shows the value of "option 2" if the barcode type is 2D. It is inactivated if the barcode type is 1D. This means of value depends on 2D barcode type.

3) Option

- **Show Digit** : It shows whether text of barcode is shown or not. It is inactivated if the barcode type is 2D. If the value is changed to "Show", text is displayed on the bottom of barcode.

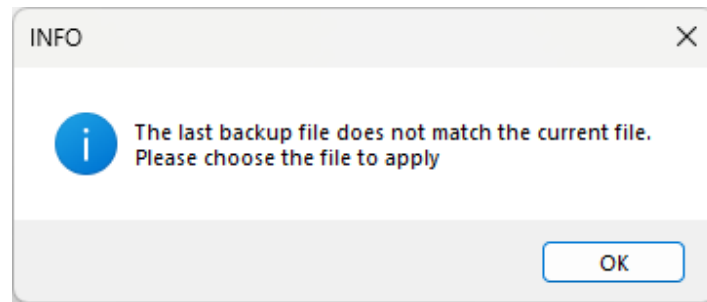
- **Auto Size** : It shows whether Auto Size is applied or not. If this value is True, barcode size will automatically change the size to fit to frame size.
- **Start Code** : It shows the "Start Code" if the barcode type is Codabar. It is inactivated if the barcode type is not Codabar.
- **Stop Code** : It shows the "Stop Code" if the barcode type is Codabar. It is inactivated if the barcode type is not Codabar.

4) Data

- **Data** : It shows the data of barcode.
- **Zip Code** : It shows the zip code if the barcode type is Maxicode. Max size is 15 characters.
- **Field** : It shows the field connected to barcode. If field is already connected to other image when the field is changed, you can't connect that field.

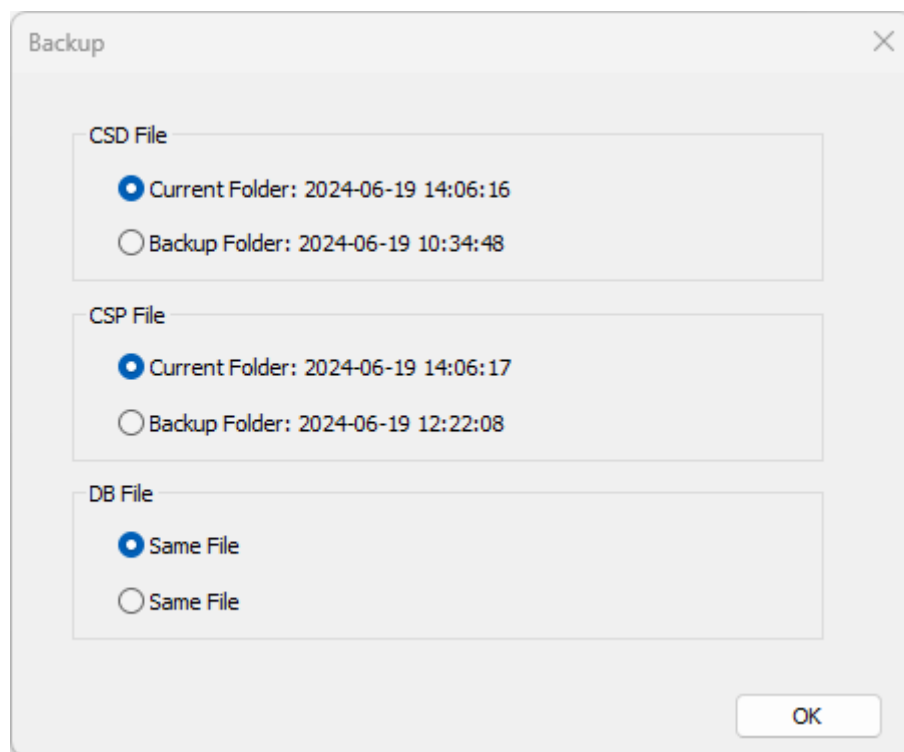
8 Additional

8.1 Backup



<FIGURE> 122 – BACKUP NOTIFICATION POPUP

If the program terminates abnormally, this pop-up will appear when you reload the project.



<FIGURE> 123 - BACKUP FILE SELECTION WINDOW

- **Current Folder** : The Current Folder shows a temporary file with the date and time of modification of the work in progress before the abnormal termination.
- **Backup Folder** : The backup folder shows files with the date and time of the file when the project file was first opened before the abnormal termination.

9 Plugin

Other functions besides basic functions in SMART IDesigner are supported as Plugin type.

If you make a file according to SMART IDesigner plugin regulation, the plugin can be used in SMART IDesigner.

9.1 Overview

You can use any name for plugin file but the extension type should be ".dll".

If you copy plugin files in C:\Program Files (x86)\SmartIDWPlugin" folder where SMART IDesigner is installed in, and restart SMART IDesigner, you can use the plugin in SMART IDesigner program.

The default installation path is as follows.

- C:\Program Files (x86)\Smart IDesigner\WPlugin\User
- C:\Program Files\Smart IDesigner\WPlugin\User

9.2 Plugin Development

You can develop plugins as "DLL" type.

There are some regulations for developing plugin and you must follow the regulations.

9.2.1 Parameters and Return Values

The plugin uses the following functions;

Mandatory	<pre>int WINAPI GetPluginInfo(PLUGIN_INFO* pInfo) int WINAPI StartPlugin(HANDLE hDone, PLUGIN_DATA* pInput) int WINAPI EndPlugin()</pre>
Optional	<pre>int WINAPI GetPluginCardData (CStringArray* cardList)</pre>

The header files,"PluginDLL.h" and "pluginHeader.h" in the "Plugin" folder defines related functions and structures.

The below is the explanation of each function.

1) GetPluginInfo(PLUGIN_INFO * pInfo)

This function gets plugin information.

Parameter	*pInfo : This represents information about the plugin. When the function is called, the plugin must assign values to this structure.
Return	Success : 0 (PLULGIN_S_SUCCESS) Fail : Other

2) StartPlugin(HANDLE hDone, PLUGIN_DATA* pData)

This function starts the plugin's operation and stores the output data.

Parameter	<p>hDone : An event handler used by the image capture plugin to notify SMART IDesigner when the operation is complete.</p> <p>If 'bUseEvent' in 'PLUGIN_INFO' is set to 'FALSE', the 'hDone' handle will be 'NULL', and indicating that no event will be signaled upon successful image capture.</p> <p>In this scenario, all capture operations must be completed within this 'StartPlugin()' itself.</p> <p>Conversely, if 'bUseEvent' in 'PLUGIN_INFO' is set to 'TRUE', an event must be signaled using the 'hDone' when the plugin operation is completed.</p> <p>To signal this event, the function as follows:</p> <pre>::SetEvent(hDone);</pre> <p>Even if plugin is working, it must finish its operation upon receiving an 'EndPlugin()'.</p> <p>*pData : A pointer of the data sent from SMART IDesigner to the plugin.</p>
Return	Success : 0 (PLULGIN_S_SUCCESS) Fail : Other

3) EndPlugin()

This function ends plugin action.

Parameter	Make the plugin finishes properly, including thread termination and memory deallocation.
------------------	------------------------------------------------------------------------------------------

Return	Success : 0 (PLULGIN_S_SUCCESS) Fail : Other
---------------	---------------------------------------------------------------

4) GetPluginCardData(CStringArray* cardList)

This function receives the list of card types defined by the plugin.

Parameter	cardList : SMART IDesigner receives a list of the card type from the plugin. This card list is added to the card type combo box in the user-defined encoding field settings.
Return	Success : 0 (PLULGIN_S_SUCCESS) Fail : Other

9.2.2 Structure

1) PLUGIN_INFO

This structure shows the information of plugin

```
typedef struct PLUGIN_INFO
{
    CString    szName;        // Plugin Name
    CString    szDesc;        // Plugin Description
    BOOL       bUseEvent;     // Event usage
    int        nTimeOut;      // Timeout duration
    int        nClassId;      // Type Of Plugin Class
}PLUGIN_INFO;
```

- **szName** : The name of the plugin. Make sure it does not conflict with the names of other plugins.
- **szDesc** : A brief description of the plugin as a string.
- **bUseEvent** : Set whether to use the task completion notification event in the plugin. If this value is set to `TRUE`, the `StartPlugin()` receives an event handler and it generates event when the operation is complete. If set to `FALSE`, all tasks must be completed within the `StartPlugin()` manually.
- **nTimeOut** : If no response is received within the predefined time after `PluginStart`, the plugin is finished by calling `EndPlugin()`. Set this value to 0 when `bUseEvent` is set to `FALSE`; otherwise, set this timeout value in seconds.

- **nClassId** : Indicates the class code to which this user-defined plugin belongs.

```
#define CLASS_USER_IMAGEACQUISITION    0x00000001
#define CLASS_CONTACT_CARD              0x00000010
#define CLASS_CONTACTLESS_CARD         0x00000100
```

- CLASS_USER_IMAGEACQUISITION indicates the plugin to get images from devices such as cameras and signature pads.
- CLASS_CONTACT_CARD indicates the plugin to encode data on the contact smart cards. This class communicates via the PC/SC protocol.
- CLASS_CONTACTLESS_CARD indicates the plugin to encode data on the contactless smart cards. This class communicates via the PC/SC protocol.

2) PLUGIN_DATA

`PLUGIN_DATA` is a data structure to share between the plugin and SMART IDesigner. The input and output data of this structure varies depending on the class of the plugin.

```
typedef struct PLUGIN_DATA
{
    int                nPID;                // Printer ID
    int                nFieldCount;         // Number Of Input Field
    int                nCardType;           // Card Type
    PLUGIN_FIELD       pFieldList[MAX_FIELDS]; // Field Info List
    CString            pReaderName;         // Reader Name
    CString            plmgPath;            // Image Path
    CStringArray        pOutputList;        // Output Value List
    PFN                pTransmit;           // PC/SC Function
    ENCODINGLOG         pEncLog;            // Log Function
}PLUGIN_DATA;
```

- **nPID** : The Printer's ID to use for printing and encoding
- **nFieldCount** : The number of input fields.
- **nCardType** : The card type.
- **pFieldList[MAX_FIELDS]** : An array of structures containing information about input and output fields. The array consists of input fields followed by output fields.
- **pReaderName** : The name of the encoder(reader)
- **plmgPath** : The path indicates captured image files by the image capture plugin.
- **pOutputList** : The `CString` array stores the output values in the order of the output fields.

- **pTransmit** : A function for sending PC/SC commands.
- **pEncLog** : A function to record log in the "C:\smartlog\smartenc_XXXX_X_XX.log".

3) PLUGIN_FIELD

A structure for field information.

```
typedef struct PLUGIN_FIELD
{
    CString      szName;      // Field Name
    CString      szValue;     // Field Value
    int          nType;       // Field Type
    int          nSize;       // Not Used
}PLUGIN_FIELD;
```

- **szName** : The name of the field.
- **szValue** : The value of the field.
- **nType** : The type of the field. By default, all fields are defined as text data (DATATYPE_STRING).

```
#define  DATATYPE_STRING      1      // Text Type
#define  DATATYPE_INT        2      // Integer Type
#define  DATATYPE_RAW        3      // Raw Data Type
```

- **nSize** : Not used now.

9.2.3 Plugin Class Description

There are 3 plugin classes which CLASS_USER_IMAGEACQUISITION, CLASS_CONTACT_CARD and CLASS_CONTACTLESS_CARD now. More classes will be added in the future. The PLUGIN_DATA depends on Class type.

Please refer to the below.

1) CLASS_USER_IMAGEACQUISITION

If nClassId is CLASS_USER_IMAGEACQUISITION, PLUGIN_INFO and PLUGIN_DATA are defined as below.

- **PLUGIN_INFO** If the nClassId is `CLASS_USER_IMAGEACQUISITION`, it must send plugin information to SMART IDesigner as below;

PLUGIN_INFO	Value	The target for inputting data.
szName	Plugin Name	User
szDesc	Plugin Description	User
bUseEvent	Event usage (TRUE/FALSE)	User
nTimeout	Timeout duration (seconds)	User
nClassId	CLASS_USER_IMAGEACQUISITION	User

Then, Smart IDesigner operates based on received plugin information.

- **PLUGIN_DATA** : If nClassID is `CLASS_USER_IMAGEACQUISITION`, it sends the captured image path to SMART IDesigner. Therefore, the user must input the image capture path data in PLUGIN_DATA.

PLUGIN_DATA	Value	The target for inputting data.
nPID	No data	-
nFieldCount	No data	-
nCardType	No data	-
pFieldList[MAX_FIELDS]	No data	-
pReaderName	No data	-
pImgPath	Capture image path	User
pOutputList	No data	-
pTransmit	No data	-
pEncLog	No data	-

Smart IDesigner copies the captured image from the received path to the "CaptureFiles" folder within the project folder and import it into the image field of the card.

2) CLASS_CONTACT_CARD / CLASS_CONTACTLESS_CARD

If nClassId is CLASS_CONTACT_CARD or CLASS_CONTACTLESS_CARD, PLUGIN_INFO and PLUGIN_DATA are defined as below.

- **PLUGIN_INFO** : If nClassID is CLASS_CONTACT_CARD or CLASS_CONTACTLESS_CARD, it must send plugin information to SMART IDesigner as below;

PLUGIN_INFO	Value	The target for inputting data.
szName	Plugin Name	User
szDesc	Plugin Description	User
bUseEvent	FALSE	User
nTimeOut	No data	User
nClassId	CLASS_CONTACT_CARD or CLASS_CONTACTLESS_CARD	User

Then, Smart IDesigner operates based on received plugin information.

- **PLUGIN_DATA** : If nClassID is CLASS_CONTACT_CARD and CLASS_CONTACTLESS_CARD, SMART IDesigner sends the following information to plugin: printer ID, card type, field information, number of input fields, reader name, PC/SC communication function, and log function which the user selects in the encoding field settings. Then, the plugin uses this data to do encoding job and returns the output values.

PLUGIN_DATA	Value	The target for inputting data.
nPID	Printer ID	Smart IDesigner
nFieldCount	Number Of Input Field	Smart IDesigner
nCardType	Card Type	Smart IDesigner
pFieldList[MAX_FIELDS]	Field Info List	Smart IDesigner
pReaderName	Reader Name	Smart IDesigner
pImgPath	No data	-
pOutputList	Output Value List	User
pTransmit	PC/SC Function	Smart IDesigner
pEncLog	Log Function	Smart IDesigner

The `pTransmit` and `pEncLog` function pointers can be used as follows:

```

// PFN Declaration
typedef int (*PFN)(int, int, DWORD, BYTE*, DWORD*, BYTE*);

// PFN Usage
PFN TransmitAPDU;
TransmitAPDU = *(PFN*)(theApp.pData->pTransmit);
TransmitAPDU(DEV_INTERNALRF, nlenrcmd, btCmd, dwlenrcv, btRcv);

// ENCODINGLOG Declaration
typedef int (*ENCODINGLOG)(WCHAR*, WCHAR*, ...);

// ENCODINGLOG Usage
ENCODINGLOG EncLog;
EncLog = *(ENCODINGLOG*)(theApp.pData->pEncLog);
EncLog(_T(__FUNCTION__), L"Log Message - %s", strMsg);

```

The `pTransmit` function is used in the same way as the `SmartComm_ICTransmit` or `SmartComm_RFTransmit` functions. For more detailed information, refer to the SMART SDK manual.

The nFieldCount indicates the number of input fields. If the index of pFieldList array is from 0 to nFieldCount – 1, it indicates the input field information; In the other hands, if the index is above nFieldCount onwards, it indicates output field information.

9.3 Plugin Example

9.3.1 CLASS_USER_IMAGEACQUISITION Sample

You can find the sample project at the following path:

- Sample Project Path
C:\Program Files (x86)\Smart IDesigner\WPlugin\WPlugin_Capture_Sample.zip
or C:\Program Files\Smart IDesigner\WPlugin\WPlugin_Capture_Sample.zip

9.3.2 CLASS_CONTACT_CARD, CLASS_CONTACTLESS_CARD

You can find the sample project at the following path:

- Sample Project Path
C:\Program Files (x86)\Smart IDesigner\WPlugin\WPlugin_Encoding_Sample.zip
or C:\Program Files\Smart IDesigner\WPlugin\WPlugin_Encoding_Sample.zip