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# Xerox® FreeFlow® VI Design Express Software

User Guide

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# Installing VI Design Express

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*Installing VI Design Express* describes system requirements, installation procedures, and licensing.

When first installed, VI Design Express (VDE) runs for 30 days without a license. After 30 days, a VDE license is required to operate. To obtain a license, contact a local Xerox representative for details.

**System clock**

Do not attempt to change the system clock to circumvent the license. If you attempt to change the system clock, VDE detects the change and fails to operate.

**Updates are released as Full Installers.**

You are able to install any FreeFlow VI Suite 18.0.0 update over any prior release of the FreeFlow VI Suite. Installation of VI Suite components require Administrator privileges.

**Active products must be stopped prior to update installation.**

Any active product, such as FreeFlow VI eCompose or VI eCompose services must be stopped prior to any update installation.

**Pre-requisite for installation**

If you are using this 18.0.0 release of the VI Design Express software, upgrade the VI Compose software on the printer to VI Compose 18.0.0. If you are using VI eCompose software, upgrade the software version to VI eCompose 18.0.0.

**Support removed**

Adobe InDesign CS5.5 and Adobe InDesign CS6 are no longer supported in this release. Adobe InDesign CC2021 and CC2022 are supported.

## Supported versions of Adobe InDesign

VDE supports two versions of Adobe InDesign software, as documented in [Minimum system requirements](#). As VDE is updated to support newer versions of Adobe InDesign software, Xerox reserves the right to drop support for earlier versions of Adobe InDesign software.



**Warning:** Do not choose automatic Adobe InDesign or Creative Cloud updates without first verifying that your version of VDE will run on that later version of the Adobe software. You may need to disable this automatic update process.



## Program Download

To download the VDE program electronically, go to [www.xerox.com/support](http://www.xerox.com/support), then select **Software & Platforms**. Select **FreeFlow > FreeFlow Variable Information Suite**, then select **Software and Solutions**. If necessary, to display the correct installer file, select the operating system appropriate for your target platform, then download the FreeFlow VI Design Express installer file.

## Specialty Imaging and Barcode Font download

To download Specialty Imaging and Barcode fonts, go to [www.xerox.com/support](http://www.xerox.com/support). Select **Software & Platforms**, then select **FreeFlow > FreeFlow Variable Information Suite**. Select **Software and Solutions**, then download the required fonts from the list.



Note: When you download fonts, you are directed to review an End User License Agreement. To download the fonts, review and accept the End User License Agreement. If you do not accept the End User License Agreement, the system exits the font download page.

## Minimum System Requirements

VDE is supported on Windows 10 (64-bit), Windows 11 (64-bit), and macOS.



Note: Support for VDE on Windows 10 and Windows 11 systems depends on Adobe support for that operating system.

VDE 18.0.0 requires an installed version of VI Compose 18.0.0 on the target printer. If VI Compose is installed on the printer, upgrade it to version 18.0.0.

The minimum requirements to run VDE are the same as the minimum requirements to run Adobe InDesign on a supported system. VDE is supported on these versions of InDesign:

- Adobe InDesign 2021
- Adobe InDesign 2022

It is required that Adobe InDesign Creative Cloud is installed prior to installing the VDE software. Refer to the Adobe InDesign or Adobe Creative Suite for OS support.

The requirements for Windows are:

- Windows 10, Windows 11, Windows Server 2016, Windows Server 2019, and Windows Server 2022. Service Pack Levels as required by Adobe InDesign
- For processor and memory requirements, refer to the system requirements for installing the Windows operating system
- 4GB or better RAM
- 5GB or better available hard-drive space
- 1024x768 monitor
- DVD-ROM/CD-ROM Drive

The requirements for macOS are:

- Mac OS X (Intel processor)
- Mac OS 12 (Apple Silicon), Mac OS 13 (Apple Silicon)

Processor: Multicore Intel processor or Apple silicon/M1

Operating system:

- macOS version 12.0 (InDesign 2022)
- macOS version 11 (InDesign 2022 and 2021)
- macOS version 10.15 (InDesign 2022 and 2021)
- macOS version 10.14 (InDesign 2021)
- Minimum 84GB RAM
- 5GB or better available hard-drive space
- 1024x768 monitor
- DVD-ROM/CD-ROM Drive

VDE does not require that VI Compose is installed on the workstation. However, when you send the exported VI

Project Contained (.vpc) file to the printer, it is required that VI compose is installed on the target print device. If using the Export option, VI Design Express PDF, VI Compose is not needed, however, exporting to VI Design Express PDF is not as efficient as exporting and printing the .vpc file.

## Installation Notes

All Windows and Mac OS X:

- Both the Windows and Mac OS X software installations must be done with the user logged in as an Administrator with administrator privileges.
- It is recommended that you uninstall the current version of VDE prior to installing the new version.

Windows 10 and above:

- When installing on a Windows 10 system, a Program Compatibility Assistant (PCA) dialog can display the following message:

`This program might not have installed correctly.`

If no error messages were displayed by the VDE installer, the software was installed successfully and the PCA message can be disregarded. To complete the installation, click **This program installed correctly**.

Specialty Imaging effects:

- Specialty Imaging effects are supported on FreeFlow Print Server (FFPS) and EFI devices that drive Xerox production print devices. Inkjet and Xerox Solid Ink technology and similar systems are not supported. Specialty Imaging effects are supported only when using .vpc or VIPP® code on the print device. Exporting and/or printing Specialty Imaging effects from a PDF file is not supported.
- Do not install Specialty Imaging fonts when Specialty Imaging features will not be used. To install the fonts later, run the Custom Install, then read and follow the onscreen instructions.
- Specialty Imaging fonts are screen fonts intended to replicate the color and size of the Specialty Imaging font effect on the screen only. They cannot be used for printing. To print an application that uses these fonts, download the Specialty Imaging fonts used in the application. Refer to [Specialty Imaging and Barcode Font download](#) for more information about downloads. Download the printer fonts needed. Some of these font files can be large. Xerox recommends that you only install the fonts used in your application.

Barcode Fonts:

- A zip file that contains printer barcode fonts (BarcodeFonts.zip) is available for download. For more information, refer to [Specialty Imaging and Barcode Font download](#). This file contains printer barcode fonts for use in VIPP®-based applications. These fonts need to be installed as printer fonts on the target print device.

The Windows Uninstaller removes the VDE package. The Mac uninstaller functions as before.

## Windows Installation



Note: Prior to beginning this installation, refer to [Installation notes](#) for important background information.

Windows installation takes place via the zip file downloaded from the [www.xerox.com/support](http://www.xerox.com/support) website. Refer to [Program download](#) for more information. The zip file contains the installer executable, the readme file, and a folder VIPP® Example that contains files and resources that can be used for the examples located in [Hints and Tips](#).

To install VDE, you must be logged on and have administrative rights.

When downloading the VDE installation application, XeroxFreeFlowVIDesignExpress\_xx.exe, place it in a temporary directory and extract the files into that directory. Where xx is the software version.

Double-click the extracted installer file to install the plug-ins.

Once the installer starts, select the appropriate language for the installer to use, then follow the on-screen instructions to read and confirm the End User License Agreement (EULA), and install the software.

Also, during the installation process, choose one of the following:

Typical	To install the VDE plug-in and related files. Use this option to install VDE when Specialty Imaging features are not required.
Complete	To install the VDE plug-in and all of the Specialty Imaging screen fonts.
Custom	To select the features and fonts to install.

Other files installed with the Plug-Ins are a README file, the Xerox EULA, an Adobe EULA, and Legal Notices PDF files. The *FreeFlow VI Design Express User Guide* in the selected language is also installed.

When Installation is complete, restart the computer.

### COMPLETE AND CUSTOM WINDOWS INSTALLATION



Note: Prior to beginning this installation, refer to [Installation notes](#) for important background information.

Use the Complete option during the initial installation process to install VDE and all of the Specialty Imaging fonts. The Custom option is used during the initial installation process, or at a later time, to install some or all of the Specialty Imaging fonts.

Follow the on-screen instructions to complete the installation. When Installation is complete restart the computer.

## macOS Installation



Note: Prior to beginning this installation, refer to [Installation notes](#) for important background information.

The Mac OS installation takes place via a .dmg file located in the .zip file, downloaded from the [www.xerox.com/support](http://www.xerox.com/support) website. Refer to [Program download](#) for more information. The .zip file contains the installer .dmg file, the readme file, and a folder (VPP Example) that contains files and resources that can be used for the examples located in [Hints and Tips](#).

1. To mount the VI Design Express installation disk on the desktop, double-click the XeroxFreeFlowVIDesignExpress\_xx.dmg file.
2. To install the VI Design Express, double-click the installer application.

A dialog box with the message XeroxFreeFlowVIDesignExpress.app is an app downloaded from the internet. "Are you sure you want to open it?" appears.

3. Select the option **Don't warn me when opening applications on this disk image**, then click **Open**.



Important: For macOS Catalina installations, if you do not select the option **Don't warn me when opening applications on this disk image**, and you run the installer directly from the .dmg file path, the installation can fail without notification. For macOS Big Sur installations, if you do not select the option **Don't warn me when opening applications on this disk image**, and you run the installer directly from the .dmg file path, a java cannot be opened because the developer cannot be verified. To terminate the message, select **Cancel**.

An authorization dialog box appears on the screen. If the logged-in user has administrative privileges, type the appropriate password. If the logged-in user does not have administrative privileges, a nonPrivAuth dialog appears. Ensure that the appropriate user name and password are entered, then select **Install Helper**. A dialog box with the message **iCloud Drive may not work properly** appears. To proceed, select **OK**.

4. When the language dialog box appears, select the appropriate language for the installer to use from the menu. Follow the onscreen instructions to read and confirm the End User License Agreement (EULA) and complete the installation.

During the installation process, choose one of the following:

Typical	To install the VDE plug-in and related files. Use this option to install VDE when Specialty Imaging features are not required
Complete	To install the VDE plug-in and all of the Specialty Imaging screen fonts.
Custom	To select the features and fonts to install.

Other files installed with the plug-ins are a README file, the Xerox EULA, an Adobe EULA, and Legal Notices PDF files. The *VI Design Express User Guide* in the selected language is also installed.

### CUSTOM INSTALL FOR MAC OS X



Note: Prior to beginning this installation, refer to [Installation notes](#) for important background information.

Use this option to install the Plug-ins, and some or all of the Specialty Imaging fonts. This is the option used to install Specialty Imaging fonts when they were not included in the initial installation of VDE.

## Installing VI Design Express

Follow the on-screen instructions to complete the installation.



## Licensing

When your product is first installed, it will function for 30 days without a license. To use the product after the 30 day trial period you must convert the trial to a fully licensed version of the product. To do this you need to purchase a production license.

The process to license VDE will depend on where and how the VDE software was purchased. This is due to unique licensing requirements based on geographical regions. This information will be included in the kit you receive/download when you purchase VDE.

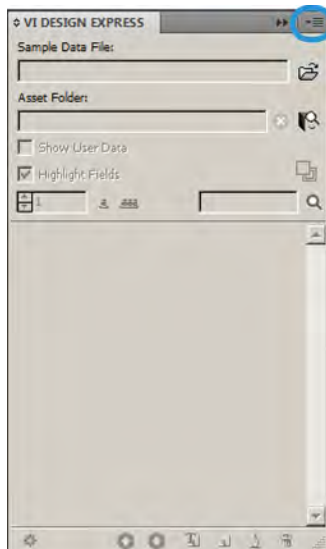
### System clock

Do not attempt to change the system clock to circumvent the license. VDE will detect such a change and will fail to operate if this is attempted.

### License file for manual load

When using the manual process of the Load License option, you will be provided a license file. License files (\*.dat) for all VI products are generated via an automatic process. The process saves the file as HardwareAddress.dat, where HardwareAddress is the address of the computer on which the product will be licensed. Therefore, it is possible to receive more than one product license file with identical file names. It is your responsibility to ensure that you do not overwrite existing licenses when saving a new product license. When license files used on a single computer will expire at the same time it is possible to request one file that will activate all the VI products on that computer.

To view how many days remain in the trial or the status of the license, select the **VDE panel menu** at the top right of the VDE panel shown below.



Selecting the VDE panel menu will produce a menu with these entries

#### License....

This option is discussed in detail in the chapter you are now reading.

#### Preferences...

This option is discussed in [Setting VDE Preference Options](#).

### VI Compose Printer License...

This option is discussed in the Prerequisites to Support Xerox Office Printers section.

### Modify PDFs with Embedded EPS

This option is discussed in the Batch Process PDF files as resources section.

### About FreeFlow VI Design Express

This option should be used when reporting a software problem to Xerox. This option will display the software version information that is critical in any troubleshooting activity. If possible always include a screen shot of error messages and a screen shot of the version information.

### User Guide

This option will open the *FreeFlow VI Design Express User Guide*.

### Frame Inspector

The Frame Inspector is used to list VDE-specific information about a Frame. To display the Frame Inspector, choose the Frame Inspector item from the drop down menu on the VDE panel.

When the Frame Inspector is open and a graphic frame or text frame is selected in an InDesign document, the frame options for that frame are displayed in the Frame Inspector. Frame options include text-fitting, Xerox Specialty Inks, text distortion, variable frame color, and barcode information.

## LICENSE FILE

The License... option produces the FreeFlow VI Design Express License panel. This panel provides access to information about the installed license and three unique licensing options. Use the panel to choose the option suited to your location.

License panel options:

License Information

This panel includes:

License type	
Days Remaining	The number of days until the existing license expires.
License Host ID:	VDE finds and displays this information from your computer. If a valid license is loaded, the Host ID used by the license is shown.
Product Version	The installed version of the VDE software.

*If you have an activation key...*

The information in this panel is designed for users who have received a software activation key as part of the software license kit for the VDE software.

If you do not have the license kit, and are in a location that requires this option, contact your Xerox sales representative to purchase the software license kit for the VDE software. Once the order has been processed a ship kit containing the Software Activation Key and Serial Number if provided will be shipped to the customer location.


For further instruction, go to [Using the Activation Key option](#).

*If you have obtained a license file...*


Use this option when you have received a license file (\*.dat) usually via email. When the file is delivered be sure to store it in a safe and accessible place on your computer.

For further instruction, go to [Using the Load License option](#).

### Using the Activation Key option


 Note: Retain the Software Activation Key and Serial Number (if provided) in a safe location as they may be required for future upgrades, support, etc.

If you have the Software Activation key, use the automated license process outlined here:

1. Choose one of the available **System Host IDs** for the license Host ID. (The default is recommended.)
-  Note: If the automated license process fails you need to have the System Host ID string and the Software Activation Key available when you contact the Xerox hotline for assistance.
2. Enter the **Serial Number** of the device on which the software is installed.
3. Enter the **Software Activation Key** in the area provided and click the **Activate...** button.
4. The Xerox License Server may return a form requesting additional information. Fill in the form as requested and select **OK** when done.
5. This information and the Software Activation Key will be submitted to the Xerox License Server.
6. At this point the Xerox License Server should have all the information required to validate the license request. If additional information is required, a new screen requesting additional information will be displayed. Fill in the required information and select **OK**.
7. The Xerox License Server will validate the information and either enable the license or return an error code if the information supplied does not match our records. If an error code is generated, report the error code to your local Xerox representative so they can assist you further.

If the information entered is valid, a license file will be generated and loaded to your system. Details of the license will be displayed in the License Information area of the License screen. To apply the license, click the **OK** button. When the OK button is selected, the license will be applied.

On occasion, the automated license activation may fail. When this happens, contact the Xerox hotline for assistance. Have the System Host ID of the workstation and the Software Activation Kit supplied in the ship kit available. Further assistance may result in a license file being emailed to you. If this happens, use the process below to manually activate the license.

 Note: If you fail to connect to the license server using the method shown above, go to any internet connected device and login to the portal using this URL: <https://www.xeroxlicensing.xerox.com/activation>. Enter the Activation Key and follow the on screen prompts. You will need to know the System Host ID of the PC where VDE has been installed. A License file will be emailed to you. Move the license to a safe location on the VDE system and use the Load License option to install the license.

### Using the Load License option

To activate the VDE license using a license file:

1. Select the **Load License** option.

2. Browse to the location of the license file, select it, then click **OK**.
3. The license will be installed. The new license information will be displayed at the top of the license panel.
4. Select **OK** to activate the license.

# VI Design Express Overview

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VI Design Express (VDE) is an application plug-in for use with Adobe® InDesign. It is designed to allow a graphic artist to:

- Create applications that contain variable information.
- Export the variable data application. VI Design Express provides three export types.

VI Project Container	Recommended for Xerox Print devices enabled with the VI Compose software. This is the most efficient way to print VIPP® applications, taking full advantage of VIPP® Pro and Dynamic Document Construction (DDC).
VI Print Package	Targeted for office or non-Xerox devices enabled with VI Compose. This takes advantage of the speed that DDC brings to printing variable data applications.
VI Design Express PDF	This is the VIPP® PDF emitter, recommended for small jobs. This does not take advantage of VIPP® Pro or DDC and can take longer to print when the record counts exceed 1,000 or more. Do not use Specialty Imaging effects when exporting to a VDE PDF. Specialty Imaging is not supported when generating a PDF file.

- Print the application at production speeds when exporting the job using the VI Project Container format (.vpc).
- Set in-line feeding and finishing for the application (device dependent).
- Allow further advanced design modification using the code based FreeFlow VI Design Pro tool or allow processing to PDF via VI eCompose.

In addition, VDE allows the graphic artist to do all of that without having to learn VIPP® programming techniques or the VIPP® Pro language, while at the same time providing the benefits of VIPP® Pro, such as:

- no chunking data files
- no waiting for precomposition so .vpc and .vpp output only
- easy reprint capabilities.

VDE is available on both Mac OS X and Windows platforms, and is designed to facilitate creation of variable data applications that take advantage of the speed VIPP® Pro software provides, from within a familiar design environment.

With InDesign and VDE, the static and variable elements of the application are inserted or defined using the InDesign environment and VDE. Static elements of the design are created using InDesign tools and graphic resources. VDE is used to introduce the variable elements, such as database fields and conditional logic, all of which are controlled through a simple-to-use GUI interface. When ready to print, the InDesign Export option is used to output a .vpc, .vpp or a PDF file. The .vpc or .vpp file can be printed to any Xerox device that is VIPP® Pro-enabled has the VI Compose software installed and licensed at the rip to take advantage of Dynamic Document Construction, while the PDF file can print to any engine that supports PDF printing.

Both .vpc and .vpp packages take full advantage of dynamic document construction and both are the most efficient output formats to print large volume applications. Xerox recommends using these formats for applications with more than 1,000 records. For small jobs, the VDE PDF output option is also available. Because the PDF emitter has to compose the PDF, this output will take longer to print than the .vpc or .vpp option. However, the PDF option does not require that VI Compose be installed and licensed at the print engine.

VDE provides a simple and easy to use GUI interface while delivering speed and flexible output options. When InDesign and VDE are used together, the advantages are a familiar and powerful design tool for the layout, and speed and/or flexibility for the printed output. When using the power of the VI Compose engine on the printer, and the .vpc or .vpp output from the VDE Export menu, jobs can be printing in minutes, with no waiting to compose print ready files. Or, if flexibility is important, use the VDE PDF output option to print anywhere.

### **Intended audience**

The VDE plug-in for InDesign, and this documentation, are intended for use by graphic designers with experience using Adobe InDesign. If InDesign related training is required, or to become familiar with InDesign, refer to the tutorials and documentation provided with that program.

### **Documentation**

This documentation describes the VDE plug-in as used on a Windows operating system. VDE functionality is identical on both Windows and Mac operating systems, however, Mac users will have to adjust for possible discrepancies between Windows and Mac mouse functions and key strokes. For example, when the instructions indicate a Right-click, Mac users should use the Mac shortcuts, mouse clicks, and so on.

The VI Project Container, or .vpc, is referred to throughout this document. Unless noted, these terms are interchangeable with the VI Print Package, or .vpp file. Both are output formats supported by VDE.

## VI Suite Customer Forum

Xerox hosts a Community Support Forum. The VI Suite Customer forum is now part of this larger support forum, allowing you to post and review information about Xerox products and services, all from one location. Take a minute to log into this customer forum community: <https://VIPSupport.xerox.com>.

## Glossary of Terms

VDE breaks down the wall between the world of creative document design and variable data applications. As such, there are terms used in this document that may not be familiar to graphic artists or to IT professionals. Because of the unique capability of the VDE product, descriptions of some of the graphic art and IT terms used in this document are included here.

### Advanced Function

A unique type of VI Design Express Rule used to insert an Advanced Function into the document. Advanced Functions can be used to insert the VIPP® **BOOKMARK** command into the VPC file that is generated by VDE, or to insert custom VIPP® code at a particular location in the document. A **BOOKMARK** command is processed by FreeFlow VI eCompose to set a split point when generating PDF output.

### APPE

Adobe PDF Print Engine (APPE). VDE output can be printed to the APPE engine of the FreeFlow Print Server. The APPE supports advanced features such as PDF-referenced XObjects, transparency, and so on.

### Application, design, and layout

In the context of the VI Design Express, these terms are used to describe what appears in the InDesign Document Window. The words Design and Layout are used interchangeably to describe what appears onscreen. The word Application is used to describe the entire VDE job, including the way that the job looks and how the job works.

### Artistic Black

A Xerox Specialty Imaging effect using patterned ink. For more information, refer to *Specialty Imaging With VIC* in the *FreeFlow VI Compose User Guide*.

### Asset and Resource

Synonymous terms used to describe the files used in an InDesign or VI Project.

### Bleed

A graphic art term used to describe an area outside of the document page boundary. For example, a bleed of 3.175 mm (0.125 in.) adds a new bleed boundary around the document. Use this extended boundary to place objects. When the page is cut at the document page size and not at the bleed boundary, a clean cut through an area of color occurs. If the cut is not in absolute alignment, using the bleed boundary avoids the possibility of stray white areas. So, a bleed area adds area to a design, and the added area can be cut off later.

### Chunk

Chunk means to break apart a larger submission file into smaller chunks. Applications that pre-compose the print file outside of the printer output of VIPP® SE typically require data files to be chunked in an attempt to produce output quicker at the print device, and provide some level of reprint capability rather than processing the whole data file again.

### Data object/Data Object List

In VI Design Express, the Data Object is a data field, rule, or transform imported into VDE or generated using an option within VDE, such as a Data Transform Object. These Data Objects are listed in the Data Object List in the VDE plug-in panel. A Data Object can be one of several different types.



## Delimited Database File

A delimited data base file is used to drive the variable data application when designing applications in VDE. A delimited data file is typically an extraction from a larger database system. A Database Administrator is the typical contact for more information about delimited data files.

## Duplex/Tumble Duplex

Duplex and Tumble Duplex are settings in the VDE Export menu, in the Print Settings panel. Selecting either of these options can result in content being printed on both sides of the sheet. The Duplex option prints on both sides of the sheet with the top of each page image at the top of the sheet. Tumble Duplex prints the front side with the top of the page image at the top of the page, while the back page image is flipped. The settings used for specific printers vary, according to how the paper is fed through the print device, and settings such as portrait, landscape, short-edge feed, long-edge feed, and other duplex options on the print device that can affect how pages are printed. Under normal operation, the start of a new record can be printed on the front of the next duplex sheet, if necessary, a blank back side sheet is forced. To disable printing a new record on the front of the next duplex sheet and forcing a blank back side sheet, select Duplex, Continuous or Tumble Duplex, or Continuous. Use caution when using this option because the start of a new record does not force printing on the front side of the next sheet. Instead, the start of a new record prints on the next available side. It is recommended that the options be tested on the target device. If output is not printed as required, re-export the job, then select the other duplex option.

## Elements

In the context of the VI Design Express, elements are the various components of the InDesign layout that make up the basic design. Elements can include lines, boxes, or other graphics, files, variable information, layers, and any other component of the design. Elements used with VDE are either static or variable.

- **Static elements:** In a VDE application, static elements are the parts of the design that do not change when the application changes from one record to the next.
- **Variable elements:** In a VDE application, variable elements are the parts of the design that change when the application changes from one record to the next. Variable elements in the design can include text, text files, graphics, and layers. Variables are inserted in the application directly, or through the use of rules, which are based on conditions defined in VDE.

### Static elements

In a VDE application, static elements are the parts of the design that do not change when the application changes from one record to the next.

### Variable elements

In a VDE application, variable elements are the parts of the design that change when the application changes from one record to the next. Variable elements in the design can include text, text files, graphics, colors, and layers.

## FreeFlow Print Server (FFPS)

A term used to describe the Xerox FreeFlow Print Server family of production print devices driven by the FreeFlow Print Server controller. The acronym, FFPS, is used in this document.

## FreeFlow® VI Compose (VIC)

Formerly called VI Interpreter. A PostScript output, device-resident software that provides the means to print complex documents at production speeds. Using VI Compose with the VIPP® language provides enhanced variable data printing performance through the use of cached object elements, dynamic text flow, data driven

graphics, data formatting, conditional processing, and workflow improvements.

### **FreeFlow® Variable Information Suite (VIS)**

A suite of software programs designed to enhance the production of print jobs that contain variable information on VIPP®-enabled print devices. The suite consists of these applications:

- FreeFlow VI Compose
- FreeFlow VI Design Express
- FreeFlow VI Design Pro
- FreeFlow VI eCompose
- FreeFlow VI Explorer
- VIPP® Manage

### **Init File**

An init file is a set of VIPP® header instructions that can be prepended to a data file or, on some devices, added to a printer queue. These actions allow an application that is run multiple times using the same resources to be run independently from **VDE**. The new data file can be extracted from the database, and the init file can be prepended or set up in the printer queue.

### **LMOT**

LMOT is an acronym for Limited Multiple Occurrence Tag and is used to describe groups of data in an XML file that can be repeated a limited number of times. For example, a customer record can contain an LMOT group that contains information such as phone type, area code, phone number, and location. For any customer this information could be repeated for each phone type on record. Phone types could be home, work, or cell phone numbers. Each phone type has the same tags, but the data contained within the tags can be different. Using the phone type record example, the LMOT group would contain three phone iterations.

### **Margin**

A term used to describe an area of the physical sheet of paper on which printing is not permitted. A margin, in effect, reduces the printable area of a physical sheet of paper.

### **Page Size**

The physical size, in width and height dimensions, of a sheet of paper. Refer to *Sheet Size*.

### **Physical Page/Logical Page/Multi-Up**

Used in the context of VI Design Express. InDesign creates a document layout consisting of pages, as defined under the Document Setup menu. During the export function, there is an option to select a page size. This option is defined as the Physical Page or sheet on which the printer can print the job. This size can be the same or bigger than the document size defined in InDesign. Often the intention is to print a document multiple times on the physical sheet. In an IT world, this is referred to printing many logical pages, or printing the original document onto the physical sheet used by the printer, which is also known as *Multi-Up*. The export function in InDesign handles these options for **VDE**.

### **Prefixed Transactional Delimited Data File**

Prefixed Transactional data describes a data format supported by VI Design Express and used to generate transactional documents such as telephone bills, credit card statements, etc. The first field of each data record contains a prefix that is used to determine how that record will be placed in the document.

## Production speed

A term used to describe print speed. When a printer is printing at production speed, it is running as fast as the printer and application allow.

## Rule

Used to control the logical flow in a variable data application. A rule is an **IF** or **ELSE** condition, which are decision points. If something is equal to x do y, otherwise do z. In VI Design Express, a rule can be used to test a database field or a value, and can be based on the result of an action such as placing text or an image. In addition, a VDE rule can turn on or turn off the visibility of an InDesign layer.

## Sheet size

In the context of VI Design Express, this designation is used in the InDesign Export menu when the final output parameters are created. Sheet size refers to the size of the sheet of paper on which the application is printed. Refer to *Page Size*.

## Slug/Crop Marks

Slug is a term used to specify a mark, normally a short thin line, that is printed on the final output of the page and used as a guide to finish the application. It is used typically to guide a cutting operation. A slug is printed typically at each corner of the document, just outside of the document area defined by the document size that is used in the Document setup menu. The term crop mark is used often to describe the same thing.

## Specialty Imaging

A reference to the area of specialty printing in the offset industry that covers special printing effects. VI Compose includes support for *MicroText Font*, *Correlation Mark* and *Fluorescent Mark*. These unique printing capabilities can be used to deter fraud and add visual effects to documents.

## TransPromo

TransPromo or TransPromotional is a mixing of promotional content with transactional type data. For example, a telephone statement is made up of transactions. By adding promotional material to the billing statement, such as advertisements for a new mobile telephone service, or coupons for store discounts, value can be added to the billing statement. TransPromo has been replaced by the **Prefixed Delimited Transactional Data** feature, which VI Design Express now supports.

## Variable Information

A term used as a generic description of the data that is used in VIPP® applications. The generic description refers to the many resources that can be inserted into an application, and to the way elements of the design can be placed conditionally into the application. The most recognizable Variable Information application is a mail-merge application, in which the variable data, name, address, and so on found in a data base file, are inserted into a letter.

## Variable Information Production Printware (VIPP®)

A programming language used as a basis for VI Compose, and the software that is included in the FreeFlow VI Suite of applications. When a document is exported, VDE writes all the VIPP® Pro code that is used at the print device to format the application. Learning to program VIPP® is not necessary.

## VI Design Express PDF

VI Design Express PDF is an export option. When selected, VDE will process the variable data application on the PC or Mac, and generate a PDF file.

## VI Print Package (VPP)

A VPP is a print ready package output during the Export function of VI Design Express. The VI Print Package is designed for direct submission to an office device and is a self contained print file. VI Design Express software will package up all resources, control files, license files, if available, and so on into the .vpp file. Unlike the .vpc file (described next), the printer does not need to extract the files onto disk, however, system resources on the target device must be sufficient to allow the .vpp file to store all resources in memory. If there is not enough system resources, you need to review how to submit a .vpc file to an office device.

## VI Project Container (VPC)

A VPC is the physical grouping of resources of the project. VPC is a compressed archive that contains all the resources of a VP plus the VPF file, and is used for transporting and archiving VPs.

## VI Project Resource

A file that is part of a VI Project. Generally, VI Project resources are VIPP® resources, but there can also be non-VIPP® files included in the project. The non-VIPP® files are not processed by VI Compose. A project resource can be part of a VI Project with a VPF, or a non-VPF project. The directories that contain project resources are determined by the value of the **SETPPATH** command in the `xgfdos.run` or `xgfunix.run` file, together with the **SETPROJECT** command in a VIPP® job.

## VIPP® Pro/VIPP® SE

Pro describes the type of VIPP® Pro code that is processed directly by VI Compose at the device without the need to go through a costly pre-composition step. The data file is processed at run time on the device. A pre-composition VIPP® workflow is referred to as VIPP® SE, in which a pre-composed print file is generated outside of the printer. With VIPP® Pro, changes can be made right up to print time, the data files do not need to be chunked, and it is quick and easy to reprint one or more records. Total processing and print time is much faster with VIPP® Pro.

VDE outputs a VPC file, the type of VIPP® Pro code contained inside the VPC file is VIPP® Pro.

## VIPP® Resource

A VIPP® resource is a file that is used by a VIPP® job or VI Project. VIPP® resources include the following:

- Forms
- Images
- Segments
- Text, data, and program files
- PostScript files
- Submission files

## VIPP® Pro-enabled

Describes a device on which VI Compose software resides. VIPP® documents and VDE applications can be sent to a VIPP® Pro-enabled print device.

## Xerox Specialty Inks

Xerox Specialty Inks is an optional fifth color, available on the Xerox 1000 Printer or Xerox 800 Printer. The VI Design Express supports the creation of variable data documents targeted for this device by allowing users to

easily apply Xerox Specialty Inks to text and graphics without the need to apply spot colors or overprint.

**XML**

Extensible Markup Language (XML), is a data format that uses <start> and </end> tags to encapsulate the data and attributes associated with a data file. XML data files can be imported into the VDE panel, which allows you to select XML data elements to publish on a page, or for use in conditional logic.

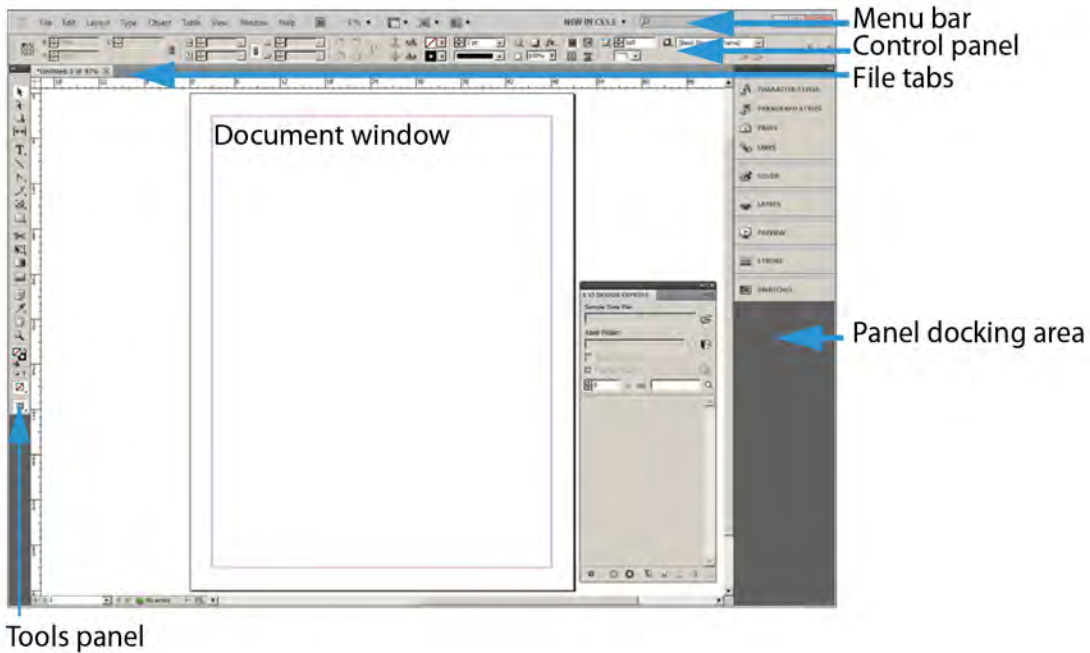
## Documentation Overview

This document is intended for use by InDesign users who have a basic knowledge of how to design documents that contain variable information. In addition to this Overview, this document covers the following:

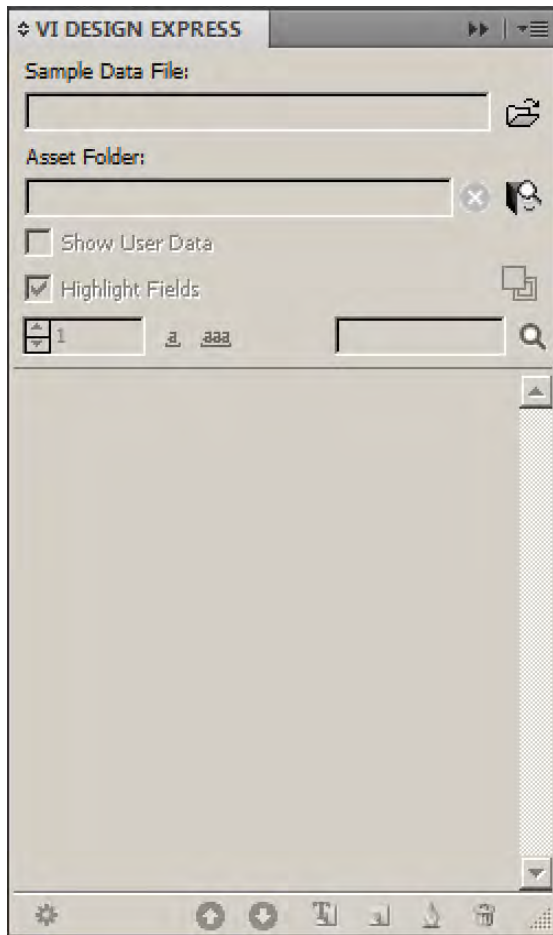
- [Installing VI Design Express](#)
- [Using VDE](#)
- [Rules](#)
- [VDE design elements](#)
- [VDE Text Pattern Swatches](#)
- [Xerox Specialty Inks](#)
- [Variable Color](#)
- [VDE Business Charts](#)
- [PIF Options](#)
- [Advanced Functions](#)
- [Data Transforms](#)
- [Export and Printing](#)
- [Prefixed Delimited Transactional Data](#)
- [Using Specialty Imaging Effects](#)
- [Hints and Tips](#)

## The InDesign Workspace

The basic InDesign workspace is shown. Generally, the terms listed are reserved for descriptions of actions performed in InDesign rather than in VDE. For information about InDesign, refer to the tutorials and documentation provided with that program.



When you use VDE with InDesign to create variable data jobs, access to the variable data required for the job is through the VDE panel. You can find the VDE panel in the InDesign menu. The VDE panel is placed typically in the InDesign docking area. The VDE panel is described in detail in this document.





## Supported Graphic Formats

VDE supports all graphic formats that are supported by Adobe InDesign for static objects. The formats include single-page PDF files, .png, .bmp, .eps, .tif, .jpg, and other common formats. A subset of formats are supported for variable objects, which includes single-page PDF files, PDF objects, .tif, .eps, and .jpg formats.

When you use PDF files as variable resources, VDE provides an option to embed an EPS (encapsulated PostScript) version of that resource into the PDF file. This action is required when the target device is a PostScript RIP (raster image processor), because a VIPP® job in a .vpc or .vpp format cannot natively print a PDF to a PostScript engine, because printing a VIPP® file in those formats does not use any print drivers that are invoked typically when printing PDF files to a PostScript engine. This embedding of EPS into the PDF file can occur during export. Each PDF takes 1–3 seconds to process, or you can use a batch mode before you start the application design.

For more information, in the InDesign Export Options, refer to [Modify PDFs in Asset Folder with Embedded EPS and Batch Process PDF files as resources](#).



Note: If the target device is an FFPS Adobe PDF Print Engine (APPE), you do not need to embed EPS into the PDF resource, because APPE can print PDF file formats directly.

## Screen and Printer Fonts

When you use TTF, TTC, and OTF fonts, VDE makes the fonts available to VI Compose on the target print device. VI Compose packages the fonts with embedded CID technology, in an internal format in the .vpc or .vpp file that is generated at export. VDE checks for any font licensing restrictions imposed by the font owners and vendors, then issues a warning during the export action if any restrictions are found. If restrictions are found, the user is presented a dialog with the actions required to continue.



Note: Mac OS Dfonts are not supported.

When using Xerox Specialty Imaging and barcodes, VDE uses a placeholder image to represent the approximate size and placement of the object. VDE does not render these items. The items are rendered on the printer or in the PDF that is generated using the VDE PDF option.

To render on the printer, the Specialty Imaging printer fonts or printer fonts for font-based barcodes such as Code 128, Code 39, EAN, 2of5, PostNet, and UPA, require installation of a printer font on the print device. All 2-D barcodes, UPC-A, and UC-E barcodes available in VDE are drawn by the rendering engine and do not require printer fonts. Legacy UPC-A and UPC-E printer fonts are still available, if needed. The same applies when exporting to a VDE PDF file. Install printer fonts to the Adobe Normalizer fonts folder, found in one of these locations:

- On a Mac: /Applications/Xerox/VIPP/VPP/normalizer/v2vnormproc/fonts
- On a 64-bit PC: C:\Program Files (x86)\Xerox\VIPP\VDE\normalizer\fonts

You can download Specialty Imaging and Barcode printer fonts. For more information, refer to [Specialty Imaging and Barcode Font download](#).



Note: Due to the large number of characters and glyphs found in TTF, TTC, and OTF fonts with embedded CID technology, you need to increase the Adobe InDesign Font Embedding Glyph Count setting to a minimum of 70,000.

- To increase the Adobe InDesign Font Embedding Glyph Count setting, from the GUI, click **Edit > Preferences > General**.
- When using TTF, TTC, and OTF fonts with embedded CID technology, the font package that is built by VDE during export can become quite large. Each CID font that is used in the application can be greater than 40 Mbytes. The large font file size can impact performance during export, building the .vpc file, and during execution on the printer or proofing tool, because a large font package is created, then extracted on the target device. These actions can add as much as 30 minutes to your processing time.
- To avoid these delays, install the printer fonts to your device and proof tool, and use the VDE Font Substitution option to avoid the need to package the CID fonts.
- Instead of packaging the large fonts, VDE uses a reference to the printer fonts that reduces greatly the size of the font package that VDE builds during exports. The action reduces the time to extract the resources on the target device, speeding up your total design and print time. While font substitution was designed for use with CID fonts, the VDE Font Substitution option can be used with any font used in your application. For more information about the VDE Font Substitution option, refer to [Font Export Options tab](#).

## Overview of Specialty Imaging and VDE

Xerox Specialty Imaging is supported on Xerox print devices that are driven by FFPS and EFI Digital Front Ends. Xerox Specialty Imaging allows low cost, low-level security or novelty effects to be added to documents using the standard toner delivered with the printer. No special equipment or toner housings are required. Not all effects are copy proof, but by using a combination of color and variable data, you can add interest and low levels of document security.

Specialty Imaging effects are supported only when using .vpc output. Specialty Imaging effects are not supported on Xerox Office devices, or when generating or printing PDF output.

Do not use the effects for documents that require high levels of document security.

- When using Xerox Specialty Imaging technology, use the Specialty Imaging screen fonts that are installed by the VDE Custom Install option. During the design phase, these fonts represent the height and width of the Specialty Imaging effect used for printing.
- When you use GlossMark Text, Correlation Mark Text, or Micro Text effects, install the Specialty Imaging printer fonts on the printer. Failure to install the printer fonts results in a VIPP® MPR or GLT Font Not Found error.

## Limitations

In the most simple terms, there are limitations to what VDE can do because of differences between how VDE and other software programs send applications to a printer.

InDesign, and most other desktop programs, use a traditional composition model to print the final output. However, when VDE is used with InDesign, jobs are printed using the technology at the core of VDE, which is based on the Dynamic Document Construction (DDC) model used in production plants across the world.

In the DDC model, the final assembly of the document is done at the last moment in the workflow. The final composition of the job is usually inside a viewer or the print controller, which is referred to as a Digital Front End (DFE). When using the DDC model to print, the instructions that describe the assembly and presentation of the document are created in the design phase. The variable and static elements that comprise the document are sent to the printer in a VI Project Container (VPC). Because the elements are inserted into the design at the DFE, both the time needed to print, and the space required to hold the job in a queue is reduced significantly.

In contrast to the DDC model, the traditional composition model does the assembly and presentation of the components of the document early in the workflow and creates a print file in a PDL format, such as PDF, PostScript, PPML, and so on. These print files can be 1 Gbyte or more, because they describe fully the presentation of each element on each page of the document, even when the same element is presented in the same manner in each page. Print files can take a considerable amount of time to be created by the composition software, then the files are transferred to the DFE that processes the PDL and composes each page before it is printed. In the composition model, after the PDL file has been created, any change in the presentation of the document, including assets and variable data, requires that the entire document is recomposed, and that a new PDL file is created.

VDE leverages fully the DDC model by employing the user interface provided by InDesign to design the document, then exports the internal InDesign instructions to assemble and present the document using the VIPP® Pro language. Through the use of VPCs, VDE submits all the assets, including VIPP® Pro templates and variable data files, to the DFE, in a single step.

The limitations occur when combining feature-rich InDesign applications with the need to include variable data and to print the final output at production speed. VDE is intended for fast production of high volumes of simple variable documents. VDE has been designed purposely with tradeoffs to achieve this target. The following sections describe the most important of the limitations, and provide a general explanation of what drives these limitations, to understand what works or what does not work.

It is recommended that you proof the job before submitting the job into production. Other VIPP®-based tools such as VI Design Pro, and VI eCompose, can be used to view or process the VPC file that is generated by VDE, or the PDF file that is generated using the VDE PDF option:

- Any user-defined name requires filenames that are composed only of 7-bit ASCII characters. User-defined names include rules, transforms, layers, colors, Data Base field names, and Job resources that are called in tags.
- To prevent potential conflicts with PostScript, VIPP® command syntax, or parameter handling, do not use the following characters: { } ( ) [ ] < > ~ ! @ \$ % ^ \* & : ' ' ? / \ "
- It is recommended that user-defined labels or Data Base field names use three or more characters, to avoid the special characters.
- The label can contain at least one or more uppercase characters and one or more lowercase characters. It is recommended that the underline character \_ be used instead of a space character to avoid the label being treated as a VIPP® or PostScript command.

## SOURCES OF THE LIMITATIONS

While the DDC model is efficient, some of the current technology limitations in PDLs and DFEs impact the InDesign feature set available to VDE. One of the most important features is related to transparency and the process of merging superimposed page objects to produce a single object with the correct appearance, or flattening.

InDesign software provides features such as drop shadows that use transparency. These features are created by flattening the objects using transparency and generating a bitmap out of them. Current PDLs and their interpreters in the DFEs, cannot perform the flattening in a predictable manner. For this reason, VDE supports only InDesign features that use transparency and do not contain variable information.



Note: In the following sections:

- Variable text is any InDesign text object that contains VDE data objects of the type `Text` or `Text File`. Any text string that contains such a VDE data object results in the entire string being treated as variable text by VDE.
- Variable graphics are any graphic files of type `Graphic` that are inserted into an InDesign layout using a database record or conditional rule.

### Text

There are limitations for variable text related to some of the InDesign presentation features for text that does not apply to non-variable text. In general, effects that result in InDesign rasterizing are not available in VDE. Rasterizing is the process to create a bitmap representation of text. The most important limitations for variable text are as follows:

- Only the font-based spacing between characters is supported.
- Variable text reflow between frames, shapes, and tables is not supported.
- Hyphenation is not supported for variable text.
- Footnotes and Headers are not supported.
- Ensure that the created text frame can accommodate the complete text content. When the text variables are resolved, the text fits in the specified text frame.
- Adobe supported fonts should be used for variable text. Also this applies for Arabic fonts.

### Graphics

There are limitations for variable graphics, related to some of the InDesign presentation features for graphics, that do not apply to non-variable graphics.

- Graphic frames that contain variable graphics cannot be distorted or sheared.
- Variable text with an in-line graphic, or a graphic placed directly into the text frame and not placed in a graphic frame, are not supported. Use the option `Variable Text Around an Object`.
- The alignment of the graphic inside the frame is limited to options that are applied using the `Frame Fitting Options` panel only. Do not use a Fitting option chosen from the menu. For more information, refer to [Fitting an image to a frame](#).
- Do not use the white arrow tool to move or modify the image after insertion within the frame, because the changes do not remain in the layout. For more information, refer to [Fitting an image to a frame](#).

## Variable Layers

VDE relies on InDesign software to flatten fixed objects and provide an EPS (encapsulated PostScript) file for the resulting flattened object. For fixed layers that appear on each page of the document, InDesign generates a single EPS file. However, when conditional logic based on variable data is created to turn off or on the layers for a specific page, several combinations of layers require flattening and one EPS file is required for each combination, which increases greatly the complexity of the job.

To avoid unexpected results, minimize the number of variable layers that are called or switched on or off, using a visibility object that is used in the application. The following combination factors into the performance of the VDE Export when creating the output .vpc file: The number of visibility controlled layers available, and the total number of visibility controlled layers that are used on a page. When possible, minimize the number of these visibility layers used per page, and combine the information into one or two layers. The action of combining the information makes a significant difference in the export performance, and the total file size of the VPC file created for printing.

When you select the Export option, and before creating the VPC file, select several related Export options. When using variable layers that are controlled using a visibility object, review the information in the **Flattening** menu. The Flattening menu has two required entries under the heading Number of layers per page with variable visibility. It is important to enter the correct minimum and maximum values. For more information about setting these values, refer to [Flattening](#).

## Static and Variable Object Interaction

Due to the way VDE separates static data objects from variable objects, care should be taken to avoid placing static elements over a variable element. Although the presentation in InDesign can appear correct, VDE does not render the objects in this order, and the variable object overwrites, or knocks out, the static object.



Tip: To avoid knocking out the static elements, force the static object to be treated as a variable object. Depending on the object you are working with, there are ways to do this, for example:

- For text objects, create a Data Transform object that contains an empty field or a space character, then add that transform to the end of the text string. This action forces VDE to treat that text as a variable.
- For graphic objects, try calling in the object with a graphic rule.

## Master Pages

InDesign software allows the creation of a special type of page that can be used as a template for creating other pages. Such pages are called masters. VDE supports only the use of masters that do not contain variable text or graphics.

## Other InDesign Objects

InDesign allows the inclusion of many types of objects that are not considered to be simple objects like text or graphics, for the purpose of non-printing applications. These objects are often media elements such as buttons, sound files, URLs, and movies. Such types of objects are not currently supported by VDE, and using the objects can create unpredictable results. It is recommended that only simple objects be used for print presentations.



Note: URLs and PDF Notes can be added to applications that use the VDE PIF options to export to PDF. Refer to [PIF Options](#).

## XML

VDE supports XML data files. The following limitations apply:

- Transactional type XML files are not supported currently. For more information about Transactional records, refer to [Prefixed Delimited Transactional Data](#).
- Job resources that are called in the tags require 7-bit ASCII. Do not use the following characters for Job resources: { } ( ) [ ] < > ~ ! @ \$ % A \* I : ' ' ? / \ " .
- This release can support XML data files with limited multiple occurrence tags (LMOT). For example:

```

****
<RECORD>
<NAME>David Kirk</NAME>
<PHONE type='cell' location='work'
<AREACODE>310</AREACODE> <NUMBER>555-1234</NUMBER>
</PHONE>
<PHONE type='cell' location='home'>
<AREACODE>310</AREACODE> <NUMBER>555-6789</NUMBER>
</PHONE>
</RECORD>
****

```

- The XML element that is defined with the tags <PHONE> and </PHONE> is an LMOT. There are multiple sets of <PHONE> and </PHONE> tags within the single customer record. The customer record that is defined by the <RECORD> and </RECORD> tags is considered an LMOT because <PHONE> is repeated only in a customer record a limited amount of times, once for each type of phone the customer has.
- This release cannot support XML data files with nested LMOTs within LMOTs. For more information on using XML data files, refer to [Defining an XML data file](#).

## Opening VDE Documents in Updated Versions of InDesign

When you open a VDE document that was created in an earlier version of Adobe InDesign, a conversion process is initiated by Adobe InDesign. The conversion can affect settings to the application made by the VDE plug-in. It is recommended that you view or proof your document to validate that no objects, rules, transforms, or positioning of frames have been affected. If the application has been changed due to the conversion process, it is recommended that you recreate the application using the newer version of the Adobe InDesign software.



# Using VDE

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VDE works by allowing the insertion of variable data elements into an InDesign document and by controlling variable elements or layers via conditional logic or Rules. The variable elements are additional content that can be placed into the original InDesign document design, and are driven by values in a data file. Each document can be customized based on data. This is called a data driven variable data application. Delimited, Prefixed Delimited or transactional, and non-transactional XML data files are supported.

These features are driven by the VDE plug-in:

- The effect of the variable data in the design can be seen in the InDesign layout as the record number changes.
- Data can be transformed. For example, a name can be transformed from lower case to title case, or a numeric value can be formatted for currency.
- Text and images can be modified on the fly to fit within text or graphic frames. Blank lines can be suppressed in name and address blocks.
- Visibility can be turned on or off at the layer or page level.
- A subset of a larger data file can be selected for printing using Record Range.
- A single record can be repeated multiple times within a job.

Static elements can be added to a document at any time using existing InDesign tools, and variable elements can be added any time using VDE tools. The following is an example of the typical actions taken to create a variable information application using InDesign and VDE:

- Use InDesign to create the initial design. Open InDesign normally and create the document page using the Document Setup properties. To use bleed options, specify bleeds at this point in the process. VDE ignores any Slug options selected using this InDesign menu option. Slugs may be selected later in the VDE Export menu.
- Create the basic static layout of the document using the InDesign tools. This includes placing graphic files and text frames and applying special effects to these objects. All InDesign graphic formats can be used in this static layout, as can special effects such as drop shadows, etc. At this point, the static layout can be treated in the same manner as any other InDesign layout. The basic layout can also include multiple pages. The number of pages is defined during the initial design by changing the default value in the InDesign **New Document > Number of Pages** field, or additional pages can be inserted via the InDesign Add Page option found under the **Layout > Pages** menu.
- Create a new folder on the system, use a meaningful name so that the folder can be located easily. Copy all external resources used in the application into the new folder, which is referred to Asset folder as an in this documentation.

- Start the VDE plug-in. Refer to [Getting started](#).
- Select the delimited or XML data file. Refer to [Loading the delimited data file](#), or [Loading the XML data file](#).
- If using a delimited data file, set the correct delimiter. Refer to [Defining the delimited data file](#).
- If using an XML data file, set the iterator tag. Refer to [Defining an XML data file](#).
- If using prefixed delimited transactional data, refer to [Prefixed Delimited Transactional Data](#).
- Select an asset folder. Refer to [Selecting an asset folder](#).
- As the data file is imported into VDE, the field names and data values will populate the Data Object List. VDE will assign the field Type such as Text, Text File, Graphic File based on the attributes in the data file. However, the user should verify that the correct data type has been applied by VDE and modify as necessary. Refer to [Defining VDE data object types](#):
  - Text
  - Text File
  - Graphic File
  - Visibility
  - Color
- Insert variable information into the InDesign layout. Refer to [Rules](#).
  - Add variable data objects to text frames and graphics frames.
  - Create variable Rules, Transforms, and Advanced Functions if needed.
  - Create additional layers and apply variable Visibility information as needed.
- Test and adjust the design.
  - Test long text strings if needed.
  - Scroll through the records and view the variable effect on the design.
  - Test conditional logic and element placement and adjust as required.
- Save and print the application. Refer to [Export and Printing](#).
  - Export the Application:
    - Select .vpc, .vpp, or VI Design Express PDF as the output format from the Export menu.
    - Select output sheet size.
    - Select Page Range or Record Repeat, if required.
    - Select Multi-Up and Z-sort Imposition options, if required.
    - Select crop marks if required.
    - Adjust Gutters to achieve desired results, as needed.
    - Set Variable Page conditions if required.
    - Define and select feeding and finishing options, if required.
  - Proof the application.

- Test and validate the application before going into production.
- Send the .vpc, .vpp, or PDF generated by the Export option to the printer, or to a print provider, for production.

## Setting VDE Preference Options

The VDE Preferences panel is used to set interface and VI Projects preferences. Xerox recommends use of the default settings.

Options are set for the current logged on user. If multiple user accounts are supported on the computer, then each user will have their own preference settings.

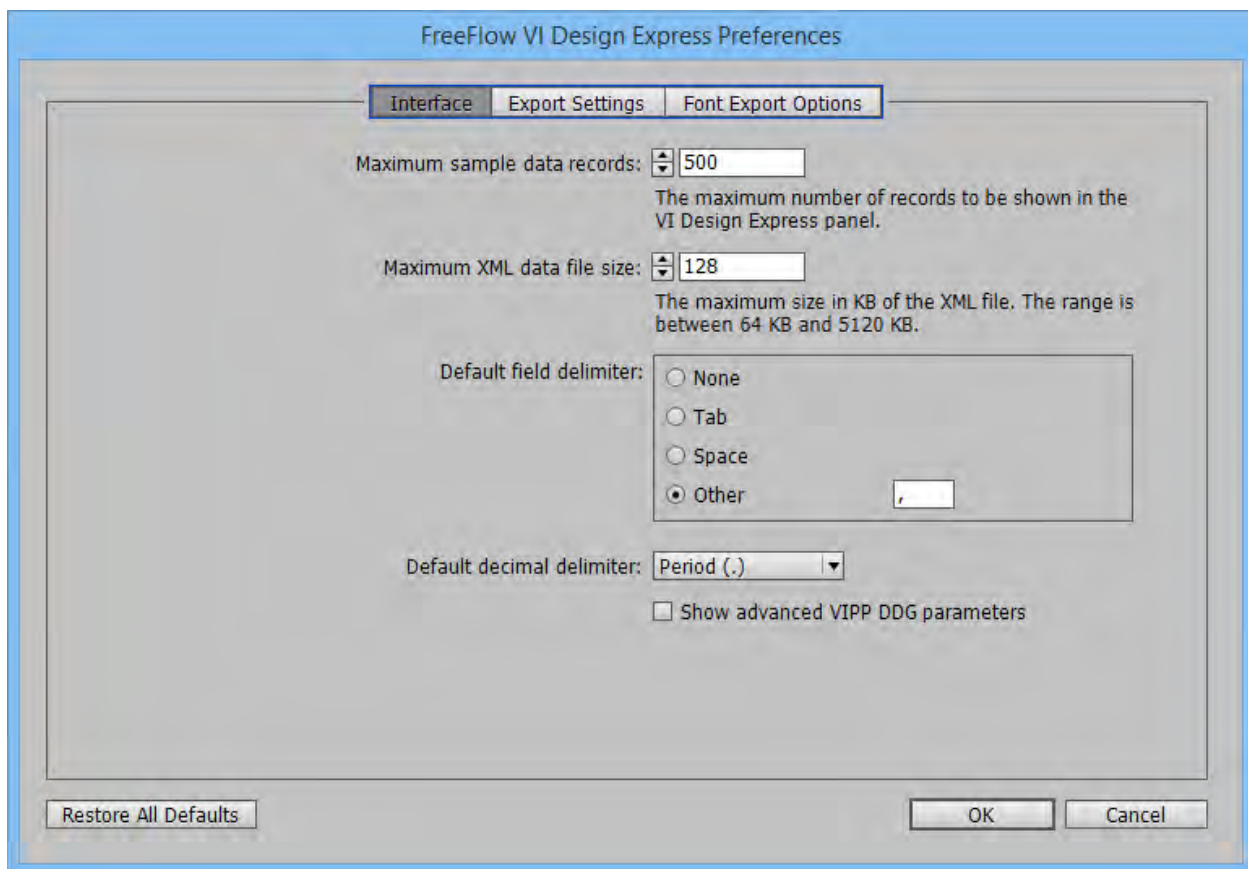
Choose **Preferences**  from the VDE panel menu to display the VDE Preferences panel.

The VDE Preferences panel has four tabs, which are described in the following sections:

- **Interface tab**
- **Export Settings tab**
- **Font Export Options tab**
- **OMR Configuration tab**

### INTERFACE TAB

The Interface tab has three available settings.



#### Maximum sample data records

This option sets the maximum number of data records VDE will load into the VDE data object list. VDE must process every record in the selected data file when scrolling through data records. By changing the maximum

sample data records value, the number of records processed is increased or decreased. This can affect the time VDE needs to scroll through each record.

The default value is 500. The allowable range is 10–100000.

#### **Maximum XML data file size**

This option sets the default delimiter used in the data files that are accessed to create the VDE job.

#### **Default field delimiter**

This option sets the default delimiter used in the data files that are accessed to create the VDE job. Select **Other** to change the default when most of the data files being processed use a delimiter other than None, Tab, or Space.

#### **Default decimal delimiter**

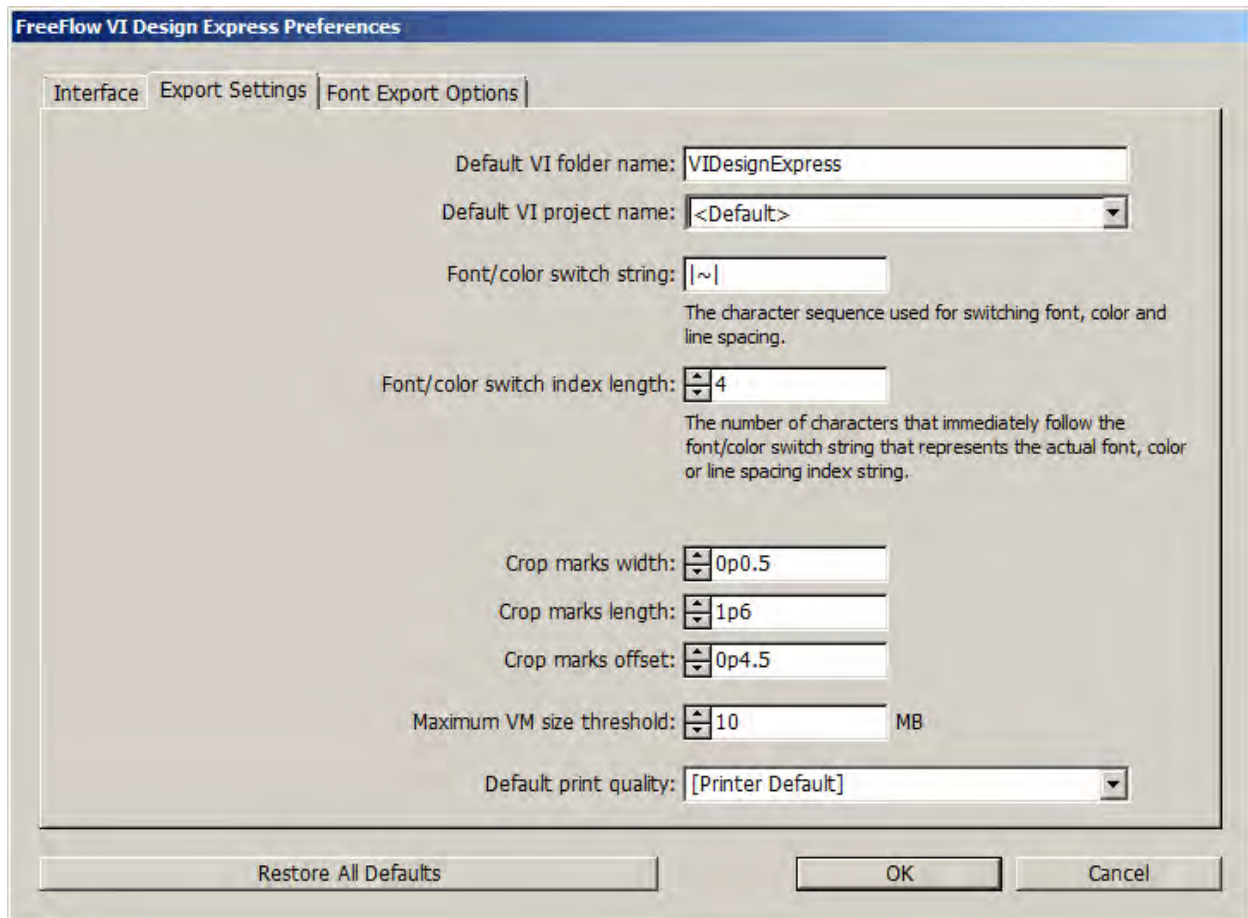
This option sets the default decimal delimiter value used in the VDE. The options are a period or a comma. The default setting is based on your location. For example, in the USA, the decimal delimiter should be set to the period. The option selected should be based on the target local for the data and application.

#### **Show advanced VIPP® DDG parameters**

Enable this option to select advanced VIPP® DDG parameters in the Business Chart feature. If the check box is not selected, the DDG parameters are not available.

### **EXPORT SETTINGS TAB**

The Export Settings tab has nine available settings. These settings will be the default values found on the VDE Export panel, or the values that will be specified in the VIPP® Pro code generated by VDE.



### Default VI folder name

The Default VI folder name option is used to specify the folder name VDE will use when exporting the document to a VI Container file. This is the folder where VI Compose will locate job and resource files during the print operation. This folder is located under the xgfc folder.

The default folder name is VIDesignExpress. This may be changed based on individual requirements. The folder name is case sensitive, it must be no longer than 32 characters, and it can contain only dash (-), underscore (\_), period (.) and alphanumeric characters.

### Default VI project name

The Default VI project name specifies the name used for the VI Container project name. This is the job name used for the document.

The default value is <default>. When set to <default>, VDE will use the InDesign document name as the project name. When changed, all jobs will use the value specified as the Project Name. This may be useful to prefix all the jobs with a set value, such as MyJob\_. During the export process the unique job name can be added to the prefix.

The total number of characters in the project name used by VDE cannot exceed 32 characters. It is case sensitive and can only contain the dash (-), underscore (\_), period (.) and alphanumeric characters.

### Font/color switch string

This setting is used to change the default font and color switch settings that the Export function will use when generating the VI Project Container. These settings are used when the job is processed on a VIPP® Pro-enabled

printer to control the fonts and font colors used by the application.

The default character string is l~l. It is unlikely you will need to change this value. However, when the data includes the string l~l in the data, it will be interpreted as a font/color switch. To avoid this, change the default setting using this preference menu to a character string not used in the data file.

This string has a minimum of 3 characters and a maximum of 6 characters. It must only contain lower (7-bit) ASCII characters, excluding the space character, backslash, open and close parentheses, and percentage sign.

### Font/color switch index length

This value specifies the length of the string following the font/color switch that will be used to name the font or color index. This information is used by VI Compose when processing the job.

The default value is set to 4. Do not change this value unless you are familiar with the VIPP® Pro language and need to use more than 4 characters to describe the font/color switch name. The allowable range is 4 to 6.

### Crop marks width

This option sets the default thickness of crop marks, when the VDE crop marks option is selected in the VDE Export menu.

This value will be displayed in the units of measure currently selected under the InDesign **Edit > Preferences > Units and Increments panel**. (The InDesign unit selections are: Points, Picas, Inches, Inches Decimal, Millimeters, Centimeters, Ciceros, Agates, or Custom.)

The default value is 0.5 points. The allowable range is 0.2 to 9.0 points.

### Crop marks length

This option sets the default length of the crop mark, when the VDE crop mark option is selected in the VDE Export menu.

The default value is 18.0 points. The allowable range is 4.0 to 72.0 points. This value will be displayed in the units of measure currently selected under the InDesign **Edit > Preferences > Units and Increments panel**.

### Crop marks offset

This option sets the default offset of the crop mark from the corner of the page logical page if using the Multi-Up option, when the VDE crop mark option is selected in the VDE Export menu.

The default value is 4.5 points. The allowable range is 0.0 to 18.0 points. This value will be displayed in the units of measure currently selected under the InDesign **Edit > Preferences > Units and Increments panel**.

### Maximum VM size threshold

This option sets the maximum threshold for VIPP® imposition operations within VI Compose running on the printer. It is set to 10MB to avoid definition of a stack size (ZSORT) parameter that exceeds the available virtual memory on the device. When VDE detects a ZSORT parameter that exceeds this threshold limit it warns the user. When warned, either increase the threshold VM limit, if enough memory is available on the device, or, reduce the stack size in the ZSORT option.



Note: The stack size should be equal to or less than the number of sheets the off-line cutter can handle. The normal range is between 200 and 500 sheets.

### Default Print Quality

The Default Print Quality specifies a particular print mode for the printer. Support for Print Quality is more often found on office devices than on production devices. When a device does not support Print Quality, any setting other than Printer Default will be ignored.

## FONT EXPORT OPTIONS TAB

The Font Export Options tab provides a mechanism to substitute OTF/TTF/TTC fonts used in the InDesign application with printer fonts installed on the target print device.

### Benefits of using printer fonts

When you export the job, VDE will build a font package based on the fonts used in the document. Using standard font sets non-CID fonts the font package will remain relatively small, so the time to build the font package and the time to expand the font package on the printer is not significant. However, if using large fonts such as OTF/TTF/TTC fonts with CID technology, the font package can quickly become large, as these fonts can be in excess of 40MB apiece. This will increase the time to build the font package (from seconds to minutes), and require additional time on the printer to extract these fonts.

Avoid this added time by installing printer fonts on the target device, then using a VDE Font Substitution table to exclude certain fonts from the font package. By pairing a font used in your application to a printer font installed at the target printer, those fonts will not need to be included in the font package, as VDE will issue direct calls to the printer fonts. This will result in much smaller font packages and thus, save time during export and printing. Although originally designed to save time when using OTF/TTF/TTC fonts with CID technology, this process can be used with any OTF/TTF/TTC font used in your application. You may only see significant time improvements when using font substitution with OTF/TTF/TTC fonts with CID technology.

### How to use Font Substitution

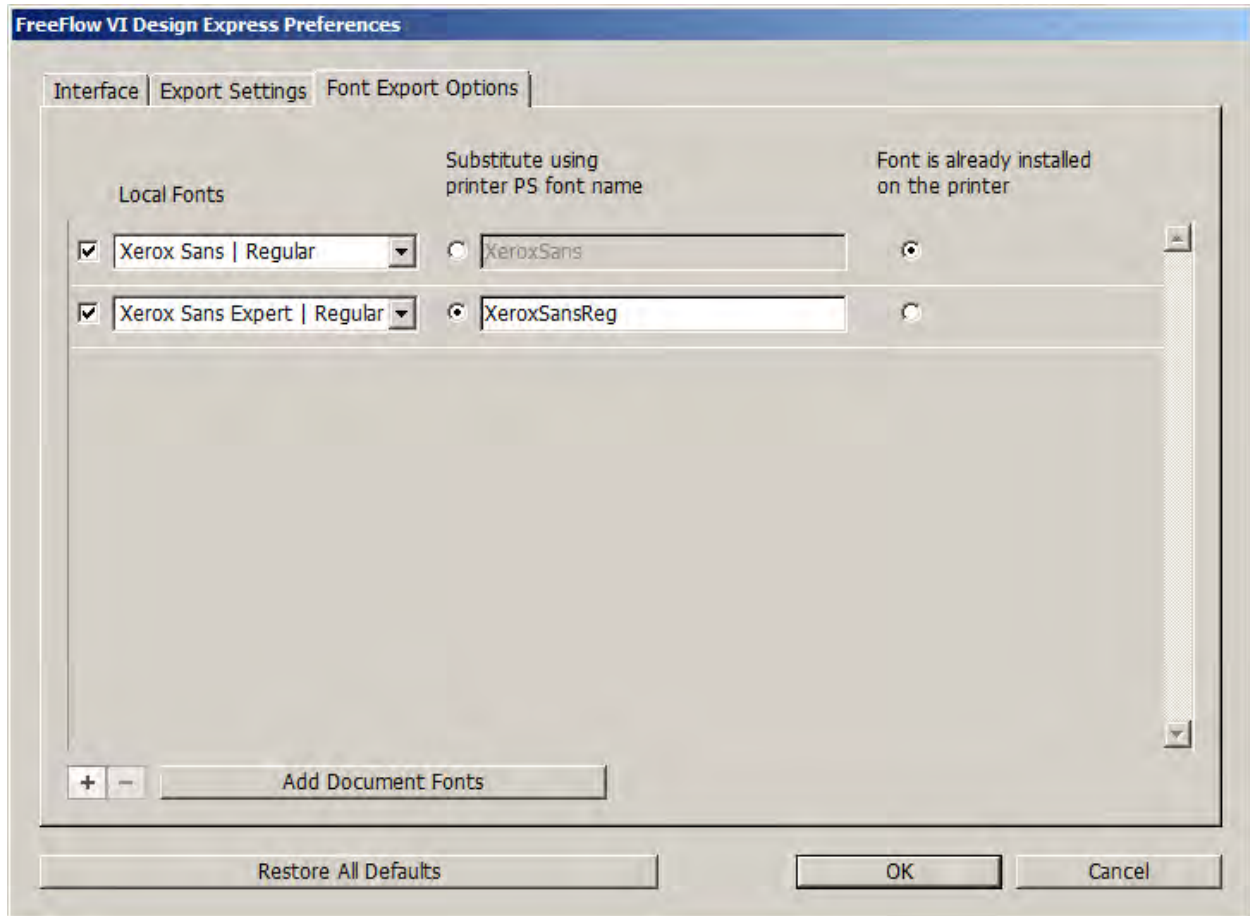
When using Font Substitution, the process is first to define a Font Substitution table, then, during the export function, choose to use the Font Substitution table by checking the **Enable font substitution** check box in the Project Settings panel. Only visible when a Font Substitution Table has been created.

### Creating Entries in the font substitution table

To create entries in the font substitution table you must know the printer font's PostScript name not the file name. Because of this requirement, some knowledge of printer fonts is required. This is especially true if using OTF/TTF/TTC fonts with CID technology, as you need to know how to specify a fully qualified PostScript font name.

Go to the VDE menu bar and select **Preferences**, then select the **Font Export Options** tab. The window below is displayed.



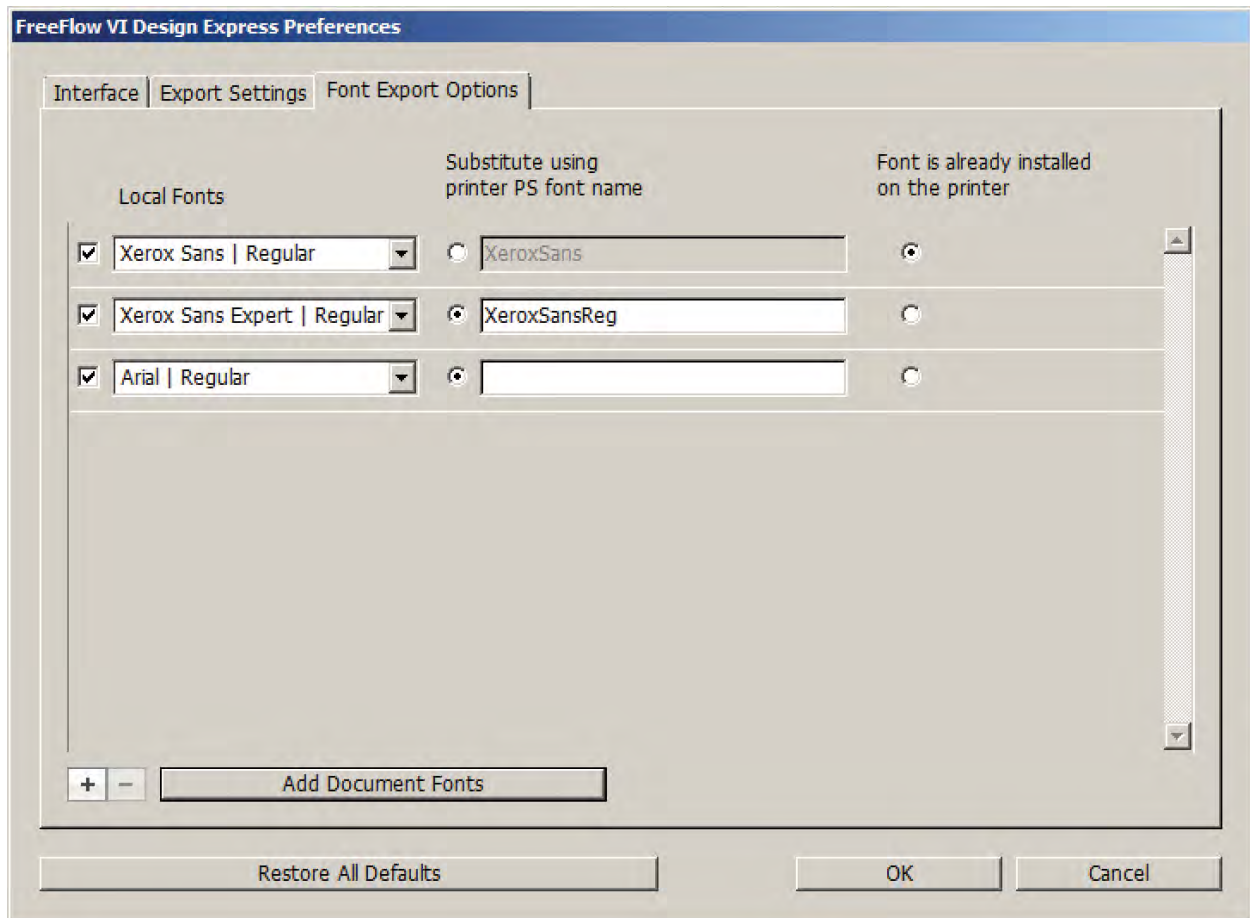


When the Font Export Options tab is initially opened, any local font with a user-entered PostScript font name will be included on the Font Export Option tab's Local Fonts list.

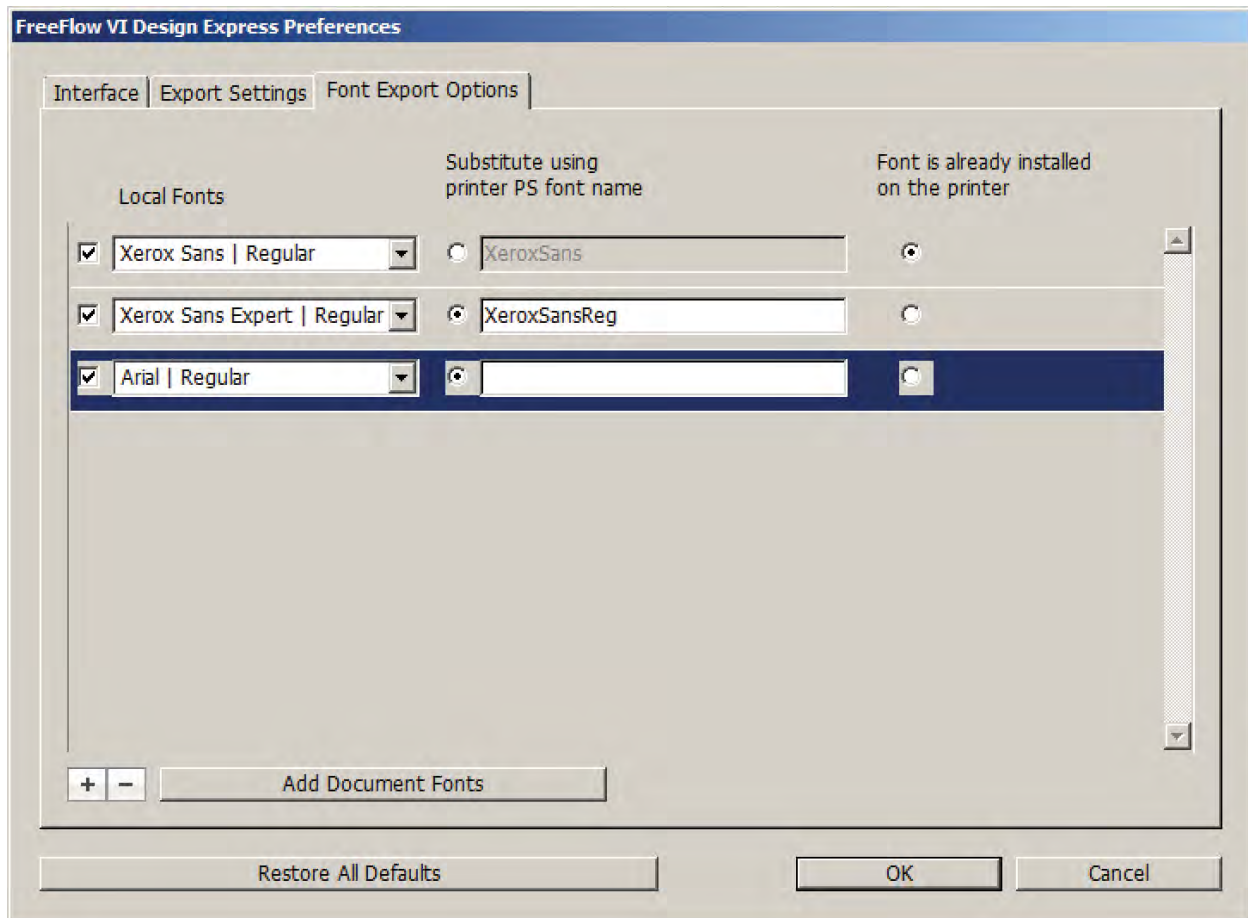
If the fonts you will use in your application do not appear in the Local Fonts list, or have not had their corresponding PS font name entered, you must enter them manually. To do so, add the fonts individually by clicking the + sign, or add all of the fonts used in your current InDesign document by selecting **Add Document Fonts**.

When you use the + button, a new Local Fonts drop-down selection box, and a Substitute using printer PS font name data entry window will be opened. The Local Fonts drop down box will be populated with a list of all of the fonts installed on your computer. Click on the font you want to add, then manually enter the appropriate PS font name.

When you click on **Add Document Fonts**, VDE will automatically enter all of the Local Fonts used in your current InDesign document. You must manually enter the appropriate PS font name for each of the local fonts.



To delete entries, place the cursor in the gray area between the Local Font entry and the Printer Font PS Name entry, then click to highlight the entry. Pressing the **delete button (-)** will remove the highlighted entry from the table.



The check box to the left, when checked, indicates that this Font Substitution entry is active, meaning this Local Font will not be included in the VDE font package when the document is exported. Uncheck this checkbox to manually control what fonts in a Font Substitution table are active or not. When unchecked, VDE will include the Local Font in the font package.

Activate the radio button under "Substitute using printer PS font name" to enter the PS font name when required.

The radio buttons under "Font is already installed on the printer" indicate that status.

### Printer Font PS Name

The Printer Font PS Name entry is a user entered field. This field is the PostScript font name not the printer font file name and, in the case of OTF/TTF/TTC fonts with CID technology, this needs to be the fully qualified PostScript font name.

### OTF/TTF/TTC fonts

The PostScript font name can be found by viewing the printer font in a text editor. Search for `/ FontName`. For the Xerox Sans font used above, the search would result in the string `/ FontName / XeroxSans def`, where XeroxSans would be the PostScript font name that would need to be entered as the Printer Font PS Name.

### OTF/TTF/TTC fonts with CID technology

The PostScript font name for OTF/TTF/TTC fonts with CID technology requires a fully qualified PostScript font name. This is a combination of the font name, the character set, UTF8 encoding, and writing direction. Knowledge of CID Printer fonts, CMAPs, etc., is required to obtain the fully qualified PostScript name. In the above example,

Ryumin-Light\_UniJIS-UTF8-H is the fully qualified PostScript name required where:

FontName = Ryumin-Light

CharacterSet = UniJIS

UTF8 Encoding = UTF8

Writing Direction = H (Horizontal)

If the Printer Font PostScript name is entered incorrectly, the job will not find the printer font and, depending on the printer's font substitution settings, will either abort or use the default printer font.

## OTF/TTF/TTC Font Handling

The following options are available when using fonts in variable objects in a document:

### Font Embedding With Resident Font Detection

The Do not use Font Export Options check box in the VPC Export Project Settings panel must be selected if Local CID fonts have been set up and enabled using the **Preferences > Font Export Options** panel.

In this case, each OTF/TTF/TTC font with CID technology is placed in its own EPS file and is included in the VPC as a VIPP® job resource. The corresponding UTF-8 CMaps are all placed in the EPS Font Package. If the CID fonts referenced in the job are not found on the target print device, the embedded fonts are used instead and the resulting behavior is the same as in previous releases. However, if the CID fonts used in the VIPP® job are installed on the target print device, significant performance improvement is observed.

### No Font Embedding, Same Font is Installed on the Target Device

In the **Preferences > Font Export Options** panel, select **Font is already installed on the printer** for each font that you have already installed on the target device, and make sure the Do not use Font Export Options check box in the VPC Export Project Settings panel is not selected.

In this case, the OTF/TTF/TTC fonts with CID technology enabled in the Font Export Options panel will not be embedded in the VPC; only the UTF-8 CMaps are embedded in the EPS Font Package. This provides the benefits of a much smaller VPC file size and improved performance when loading and processing the VIPP® job. It is expected that users have already installed the required CID fonts on the target print device and each font is found when the VIPP® job is submitted and processed.

If standard (non-CID) PS fonts are set up in the Font Export Options panel, they are not embedded in the VPC and, therefore, they are expected to be installed on the target print device as well.



Note: It is very important to make sure the exact PS Font Name referenced in the VIPP® job is found on the print device; otherwise, errors can occur. It is important that the font matches exactly the font family, style, weight, type, and version. Otherwise, there can be differences in the fonts that can change the rendering of the page. It is also possible that the UTF-8 CMap may not work for all characters causing the end result to have white/black boxes instead of the expected characters, or no characters at all.

### Font Substitution, No font embedding - substitution font is installed on device

In the **Preferences > Font Export Options** panel select **Substitute using printer PS font name** for each font that you have already installed on the target device, and make sure that the Do not use Font Export Options check box in the VPC Export Project Settings panel is not selected.

This option works the same as previous releases. The substitution font on the target print device must have a name that matches the PS Font Name set up in the Font Export Options panel exactly.



Note: Ensure that the fonts installed on the print device match exactly the family, style, weight, type, and version of the fonts referenced in the VIPP® job, as it was created using VDE. Otherwise, results can be unpredictable.

To process and/or view the VIPP® job with other VI Suite software, the same OTF/TTF/TTC fonts with CID technology must be stored in the following directories:

**VI Design Pro:**

<VIPP software installed path>/vide/  
resource/CIDFont/vide/resource/  
CIDFont

**VI Explorer:**

<VIPP software installed path>/vviewer/  
resource/CIDFont

**VI eCompose:**

<VIPP software installed path>/xvtp/  
bin/normalizer/Resource/CIDFont, and/or  
C:/Windows/Fonts



Note: An example of the <VIPP software installed path> is C:\Program Files (x86)\Xerox\VIPP.

### Export using the font substitution table

The Font Substitution table will be used by default, unless you select **Do not use Font Export Options** on the Project Settings panel.

- ☐ Proof VI Project Container after Export
- ☐ Include SI screen fonts in VPC
- ☐ Do not use "Font Export Options"
- ☐ Embed EPS in PDF files in Asset Folders

When selected, VDE will not include the active font substitution Local Fonts as defined in the font substitution table, and will instead use calls to printer fonts that must be resident on the target printer.



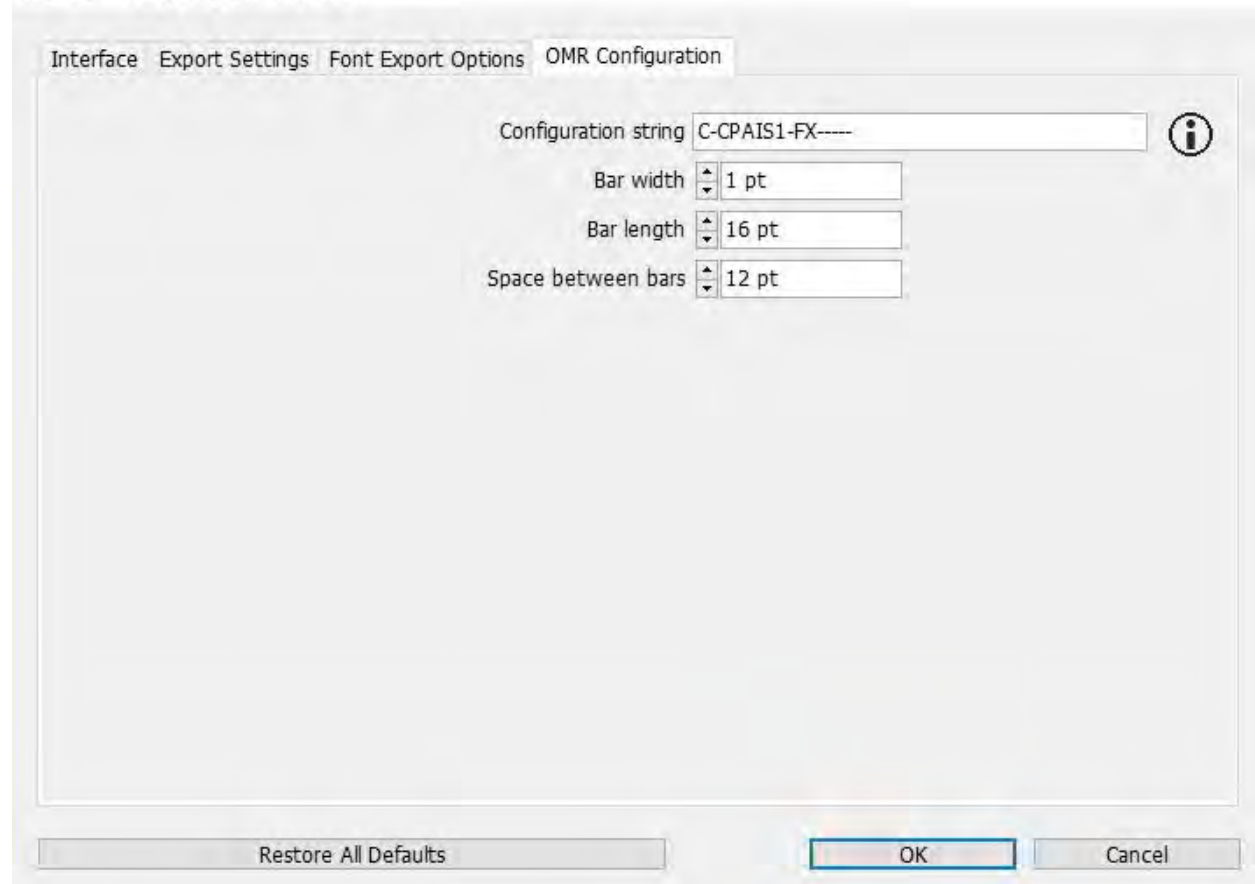
**Warning:** If the printer fonts are not available on the target printer, or the PostScript font names entered in the Font Substitution table are incorrect, the job will either abort or use the default printer font based on the Font Substitution policy on the target printer. When using Font Substitution tables, it is recommended that you verify that the correct printer fonts are being used before going into production.

### OMR Configuration tab

Defines the configuration of the OMR code for OMRINIT/OMRSHOW.

OMR Configuration tab has four settings.

### FreeFlow VI Design Express Preferences



#### Configuration String

Each character in the string represents a bar in the OMR symbol. More detailed information can be obtained by clicking the info icon beside the Configuration string field.

#### Bar width

Adjusts the width of the bar

#### Bar length

Adjusts the length of the bar

#### Space between bars

Adjusts the space between the bars.

## Batch Process PDF Files as Resources

PDF objects can be used as static and variable resources in a VIPP® application. However, to use a PDF as a variable resource, the PDF file needs to have EPS image information embedded in the PDF file in order to print correctly on a PostScript printer. This is not required when printing to a supported APPE engine. VDE provides two options to process PDF resources and add the EPS image information to the PDF. This section describes the Batch process.

To batch process PDF files in a resource folder, access the PDF Batch Processing option from the VDE Options menu. Then browse to the folder location containing the PDF files. When the folder is selected, the batch process automatically begins.

Depending on the number of PDF files you access in your application this can take several minutes. The status of the files being processed is indicated on a status bar.

Once the PDF files have been processed in this manner, the EPS information will not be reapplied. Thus, when you go to the Export option and select Modify PDFs in Asset Folder with Embedded EPS, VDE will add the required EPS information only to those files in which it is required.

### EPS and file size

Embedding EPS into the PDF files will increase the original file size. Ensure that you have enough storage space on your file system.

### Transparency limitations

When printing to a PostScript engine you need to be aware of transparency limitations. For example, a variable image with transparency laid over a background will knock out what is below the image.

## MODIFY PDF WITH EMBEDDED EPS

VDE can generate VIPP® applications that use variable references to PDF images. While VIPP® supports the use of variable PDF images, these PDF files can only be used when the target print device is a FFPS APPE engine or VI eCompose. When targeting a PS engine, this resource type is invalid. When exporting your VIPP® application to VI Projects (.vpc) you have the option to check the Modify PDFs in Asset Folder with Embedded EPS option. When checked, this option will modify the original PDF by embedding an EPS version of the original PDF image inside the PDF. When targeting a PS VIPP®-enabled device, VIPP® will use the embedded EPS information instead of the PDF. FreeFlow VI Explorer, available from the Xerox e-store, contains a batch file that can be used to automate this embedding process as a pre-process step in the workflow.

### Advanced PDF options

Advanced PDF options such as transparency, are lost when generating the EPS image file, but are still retained in the PDF file. When printing the PDF to the PS interpreter, VIPP® will use the embedded EPS language.

### Do not use this option with the FFPS Adobe Print Engine (APPE)

When you design applications targeting the FFPS APPE that use PDF resources, it is not necessary to use this option. APPE can directly ingest the PDF resources in a VIPP® application.



## Variable information and design layout

VDE allows entry of these variable information types into the existing InDesign layout:

- Text Strings
- Text Files
- Graphics
- Visibility
- Style
- Color

These variable types allow designs that vary according to the job requirements using one basic InDesign layout as the basis for the design. With VDE, the text, graphics, and even the layout of the design can change according to the data fields and layers assigned to, and the Rules created for, the job, including page visibility.

For purposes of illustration, the examples contained in this section of the *FreeFlow VI Design Express User Guide* are based on an application designed to create Identification Cards that use:

- Static InDesign features such as layers, text and graphic boxes
- Variable VDE features that allow the static design to vary according to set Rules and data fields
- Specialty Imaging features to add variable information to the finished ID card, which add an extra level of security to the printed output

An example of the finished ID Card is shown below.

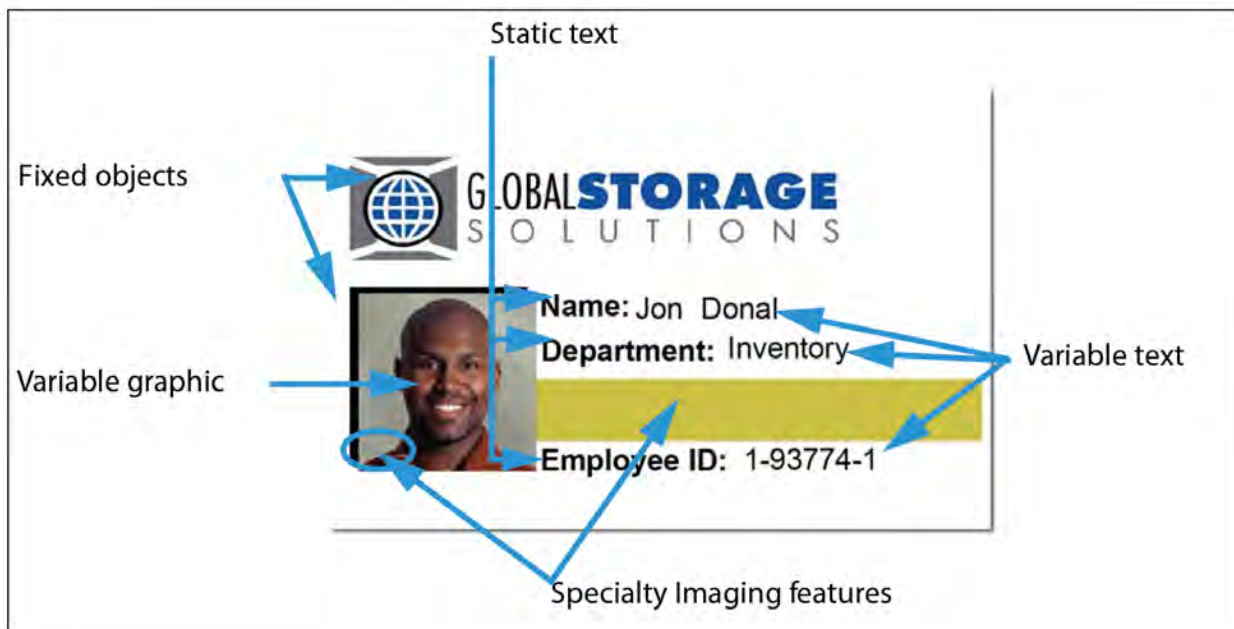


The variable information included on the ID card is:

- Employee's first and last name
- Employee's Department
- Employee ID
- Employee photograph



- Specialty Imaging features on the photograph or MicroText, and on the gold bar under the department name or Fluorescent text.



Familiarity with the VDE panel, along with knowledge of variables, and the creation of Rules to govern those variables, is required. The following sections are intended to provide that information.

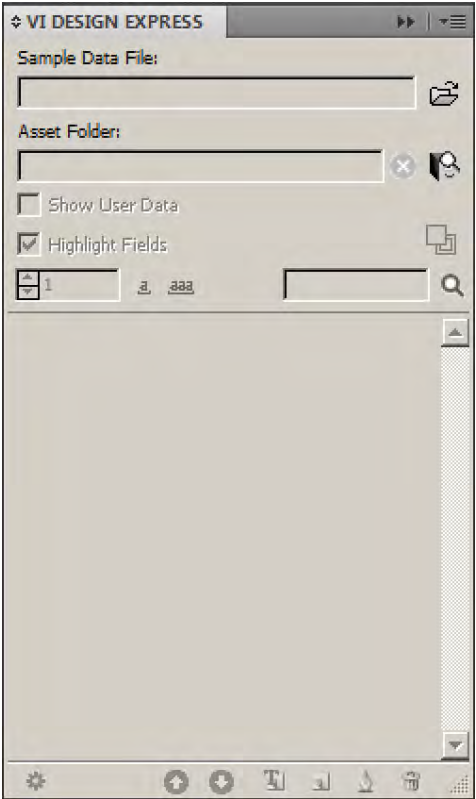




Note: For information on designing in or using InDesign, refer to the appropriate InDesign tutorials and documentation. This document only provides information on the use of the VDE plug-in.

## Buttons, Check Boxes and Icons


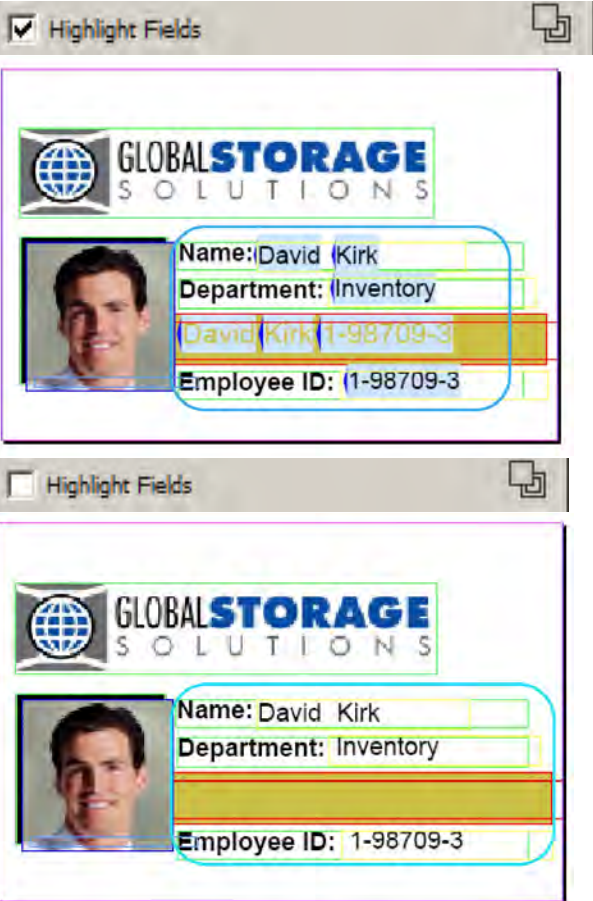


The VDE panels contain buttons, checkboxes and icons, which are used to enter information into the design or into transforms and Rules. The information in this section provides an overview of these controls.




To insert data into the basic InDesign layout, use the buttons and check boxes that appear on the VDE panel.


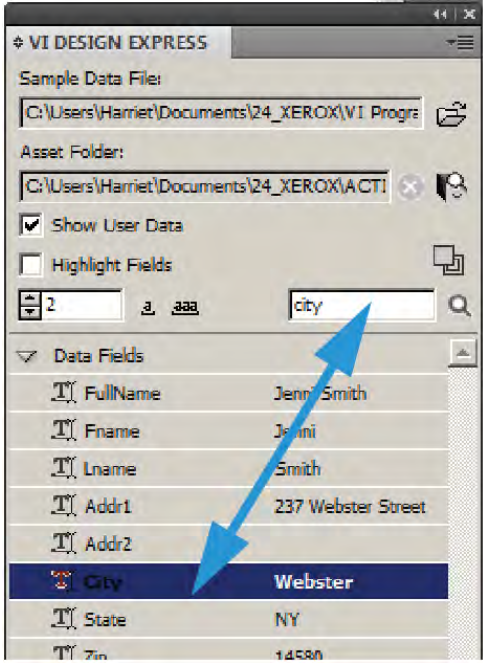




BUTTONS, FIELDS, AND ICONS	DESCRIPTION
	<p>Choose the buttons at the top of the VDE panel to minimize or maximize the panel, close the panel, to load or view the licence, set file preferences or read about VDE.</p> <p>For more information refer to <a href="#">Setting VDE Preference Options</a>.</p> <p>These buttons are located at the top right of every InDesign fly-out panel, and are used to access pop up menus related to those panels. For example, clicking on this button on the Swatch fly-out panel produces the menu from which VDE swatch options are defined.</p>
	<p><b>Select Data file</b></p> <p>Use the Data File button to browse for and select the data file used in the application.</p>

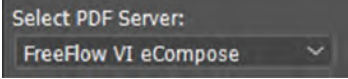
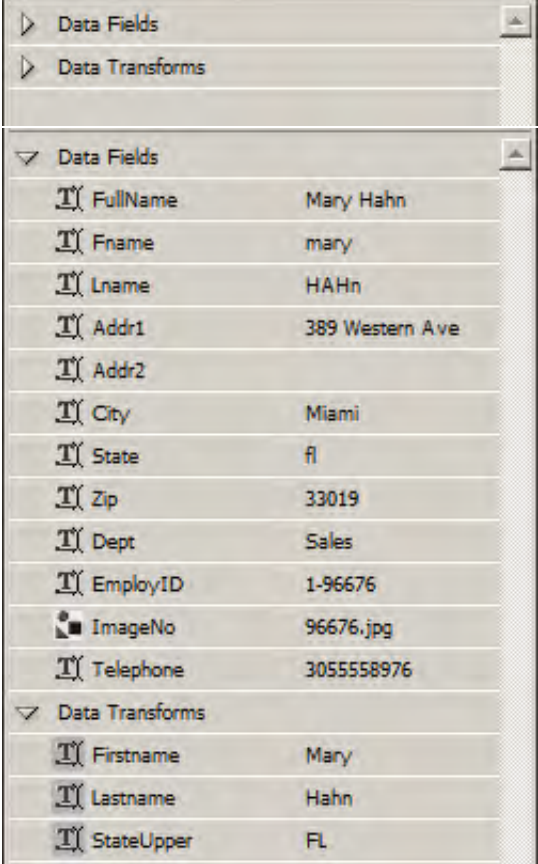


BUTTONS, FIELDS, AND ICONS	DESCRIPTION
	<p>For more information on the Data File button, refer to <a href="#">Loading the delimited data file</a>.</p>
	<p><b>Choose Asset Folder</b></p> <p>Use the Asset button to browse for and select the folder in which the assets (resources such as graphics, etc.) for the application reside.</p> <p>For more information on the Asset button, refer to <a href="#">Selecting an asset folder</a>.</p>
	<p><b>Show User Data</b></p> <p>Select Show User Data to switch between actual data and header information. Check this box to show actual contents of the data object instead of the label (name) of the data object. If this box is not checked, the selected field name, layers with variable visibility states, and variable graphics field names are displayed.</p> <div> <input checked="" type="checkbox"/> Show User Data </div> <div>  </div> <div> <input type="checkbox"/> Show User Data </div> <div>  </div>




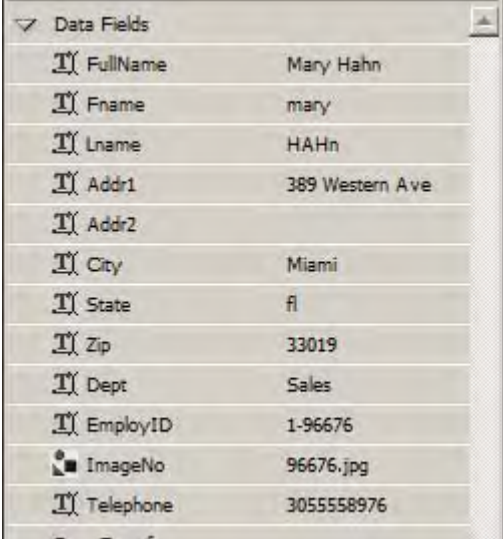


BUTTONS, FIELDS, AND ICONS	DESCRIPTION
<p><b>VDE PANEL BUTTONS, FIELDS AND ICONS</b></p> 	<p><b>Highlight fields</b></p> <p>Select <b>Highlight Fields</b> to indicate the variable text data fields in the job by highlighting them. This checkbox will highlight the text data objects inserted into an InDesign document. This is useful when the Show User Data checkbox is selected, as it will provide a guide to what is static and what is a variable object in the job.</p> 
	<p><b>Record number box</b></p> <p>Use the record number box to select the record in the data file that will display on-screen. The data appears in the InDesign workspace and in the corresponding list on the bottom portion of the VDE panel.</p>
	<p><b>Variable color toggle</b></p> <p>This icon is a toggle switch used to apply variable color to the frame stroke or the frame fill. If the filled box is on top, then the Frame Fill will be selected. If you click the icon to</p>

BUTTONS, FIELDS, AND ICONS VDE PANEL BUTTONS, FIELDS AND ICONS	DESCRIPTION
	toggle it so that the outline is on top, then the variable color will be applied to the frame stroke.
	<p><b>Text value field lengths</b></p> <p>Click the <b>a</b> button to find the record with the shortest text value for the selected record.</p> <p>Click the <b>aaa</b> button to find the record with the longest text value for the selected record.</p> <p>Because the data contained in variable text objects may be of variable length, these two buttons are available to help determine if there is enough space available in the format to accommodate all of the data that may be contained in the data file. Highlight a field name and click <b>a</b> to view the shortest record, or <b>aaa</b> to view the longest record in that field.</p> <p>This is an example of a test record created using the longest first and last names in a data file. The first is an example of the intended results, and the second is an example of unplanned results; both have highlighted fields that illustrate the areas of concern.</p> <div>  </div> <div>  </div>







BUTTONS, FIELDS, AND ICONS VDE PANEL BUTTONS, FIELDS AND ICONS	DESCRIPTION
	<p>By making a simple adjustment to the text or the text box in the design, all of the data in all of the records can be correctly included in the job.</p> 
	<p><b>Search Option</b></p> <p>The field found next to the magnifying glass on the Data Object List, is used to locate Data Object field names in the Data Object List. Simply type the first few characters of the Data Object field you need to locate and the first Data Object field that matches that search criteria will be highlighted.</p>
	<p><b>Submit to PDF Server</b></p> <p>The Submit to PDF Server button is used to invoke submission settings dialog box to submit jobs to FreeFlow Core and FreeFlow VI eCompose. For more information, refer to <a href="#">Submit Job to FreeFlow Core</a> and <a href="#">Submit to FreeFlow VI eCompose</a>.</p>
	<p><b>PDF Server Status</b></p> <p>The PDF Server Status button is used to invoke the</p>



BUTTONS, FIELDS, AND ICONS	DESCRIPTION
VDE PANEL BUTTONS, FIELDS AND ICONS	FreeFlowCore and FreeFlow VI eCompose Job Status dialog box. It shows the status of the submitted jobs. For more information, refer to <a href="#">Submit Job to FreeFlow Core</a> and <a href="#">Submit to FreeFlow VI eCompose</a> .
	<b>Select PDF Server</b> Select either FreeFlow Core or FreeFlow VI eCompose from the dropdown to send the Job to FreeFlow Core or FreeFlow VI eCompose.
	<b>Data Field, Rule and Data Transform display</b> The triangular buttons to the left of the object type list at the bottom of the VDE panel allows the lists to expand or collapse. Click the button to see a complete list of options, or to shorten the list.
	<b>Advanced Function button</b> Click the Advanced Function button to insert an Advanced Function (BOOKMARK). For more detailed information about what is being inserted and how to insert it, refer to <a href="#">Advanced Functions</a> .
	<b>Export and Import buttons</b> Click the Export (up) or Import (down) arrow to export or import a Rule or Data Transform.

BUTTONS, FIELDS, AND ICONS VDE PANEL BUTTONS, FIELDS AND ICONS	DESCRIPTION
	<b>Data Transform button</b> The Data Transform button is used to invoke a panel on which a Data Transformer of type Text, Text File, or Graphic File is created. For more information, refer to <a href="#">Data Transforms</a> .
	<b>Create Rule button</b> The Create Rule button is used to invoke the Create Rule panel on which a conditional Rule is defined. For more information refer to <a href="#">Rule creation</a> .
	<b>Edit Rule/Data Transform button</b> The Edit Rule/Data Transform button is used to invoke an Edit Rule or Edit Data Transform panel on which an existing conditional Rule or Data Transform can be modified. For more information refer to <a href="#">Rule creation</a> and <a href="#">Rule modification or duplication</a> .
	<b>Delete Rule button</b> The Delete Rule button is used to delete a highlighted Rule from the VDE panel.
<b>VDE Panel Icons used to indicate object types</b>	
	When a data file is selected, the fields in the selected file appear in this area of the VDE panel. An icon, indicating the object type, appears at the left of the data object's name.
	<b>Text icons</b> Data field, Rule, and data transform.
	<b>Text File icons</b> Data field, Rule, and data transform.



<b>BUTTONS, FIELDS, AND ICONS</b> <b>VDE PANEL BUTTONS, FIELDS AND ICONS</b>	<b>DESCRIPTION</b>
	<b>Style Rule icon</b>
	<b>Graphic file icons</b> Data field, Rule, and data transform.
	<b>Visibility icons</b> Data field, and Rule.
	<b>Color icon</b> Variable Color, and Variable Color Rule. The color of the box will changed based on the Color Name in the Swatch panel. If no color is defined the icon is gray. To correct this, make sure you have a valid variable color name defined.
<b>Buttons and Icons found on panels</b>	
	<b>Keyboard icon</b> Whenever a string is entered in the Rule panel, a keyboard icon appears next to that field.
	<b>Add and Delete buttons</b> Large plus/minus buttons are used to add or delete entries. Large plus/minus buttons are used to add or delete entries.

## Getting Started

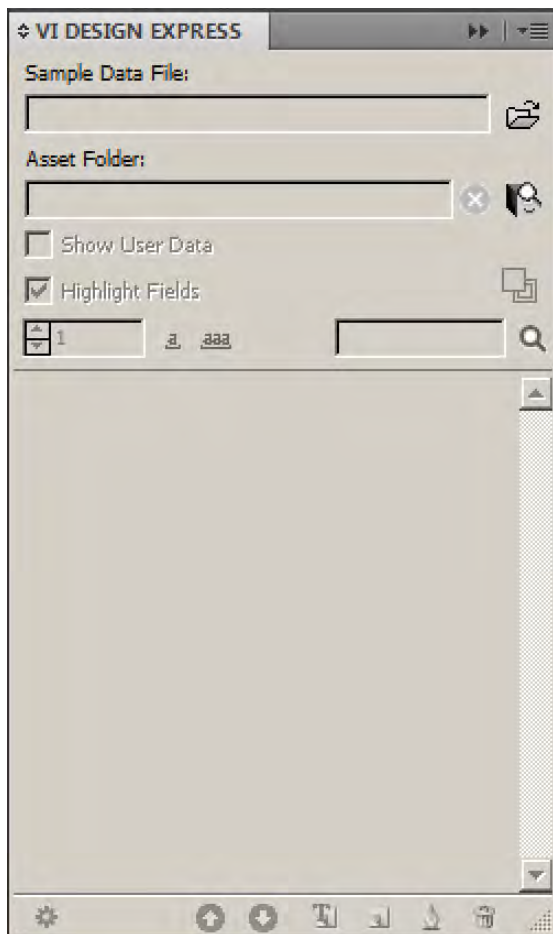
Getting Started describes how to open VDE, and provides the basic background information needed to understand the VDE panel and what it does, and to set up the InDesign application to use VDE. The background information is found in these sections:

- [Opening the VDE panel](#)
- [Preparing the workspace](#)
- [Defining a data file](#)
- [Selecting an asset folder](#)
- [Defining VDE data object types](#)

### OPENING THE VDE PANEL

To view the VDE panel, if not already displayed, select **Window > VI Design Express** from the InDesign menu bar. The VDE fly out will be displayed on the screen.

InDesign provides a docking area for plug-ins and other panels, which is usually found to the right of the workspace. However, the VDE panel can be placed anywhere on-screen using the drag and drop function.



Entering information or selecting functions on the VDE panels, can be completed by double-clicking the function,

right-clicking a button, or manually entering information into a selected object. The controls on the VDE panel will be enabled only when the appropriate InDesign page element and/or data object list item is selected.

## PREPARING THE WORKSPACE



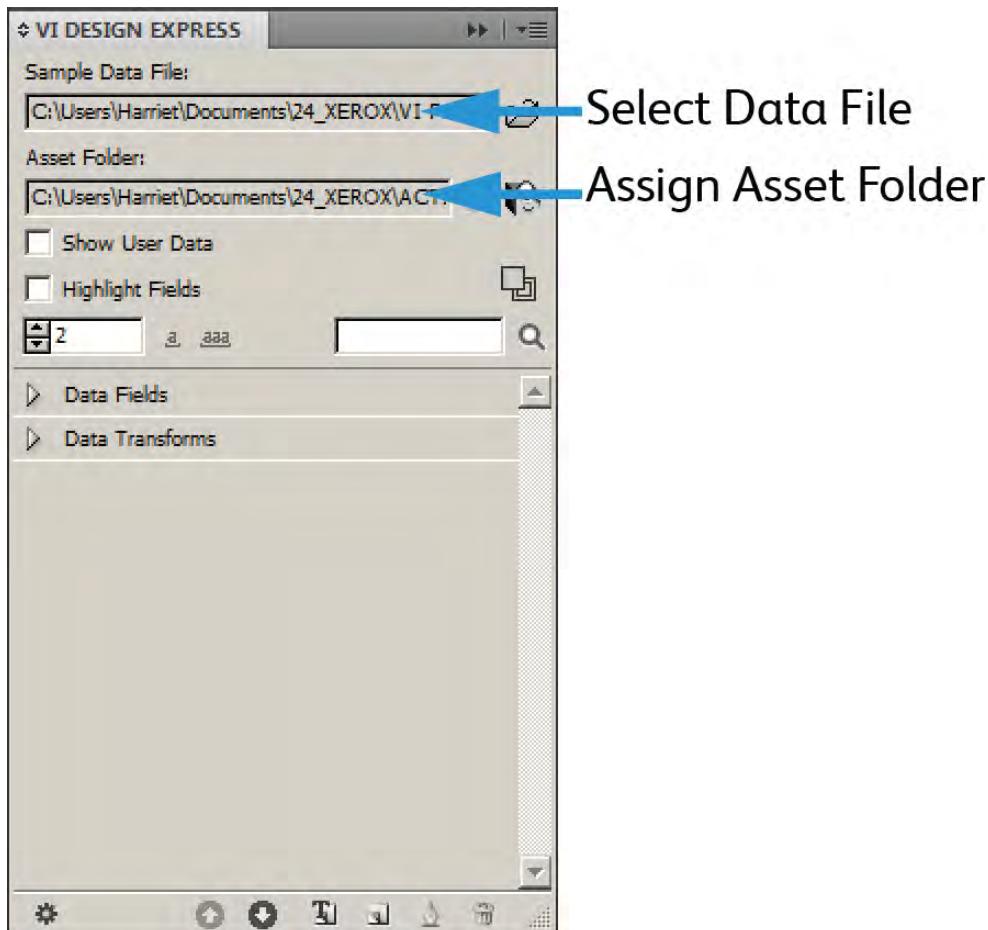
Note: First, set the InDesign Display Units using the InDesign Preferences Menu **Edit > Preferences** on the InDesign Menu bar. This will set the units InDesign and the VDE will use to display grids, rulers, and Export functions.

Variable information can be added to an existing design, or the design can be built adding the variables at the same time. No matter what method is chosen, prior to adding any variable data to the design, select a data file to use, assign the asset folder in which the variable resources reside, and verify the file type for each item that appears on the VIPP® data objects list.

The basic steps for preparing the workspace are described in these sections:

- Defining a data file
- Selecting an asset folder
- Defining VDE data object types

The process begins on the VDE panel:



## DEFINING A DATA FILE

VDE can import a delimited data file or XML data file. The process to import both types of data is similar, however, there are fewer restrictions on naming conventions, and so on, when importing an XML file. A brief description for each data file type, and of the process to import the data file for use within VDE, is described below.

## DEFINING THE DELIMITED DATA FILE

VDE can handle two types of delimited data file specifications. This section describes a standard delimited data file where one delimited data line equals one customer record. A Prefixed Delimited Transactional data file used for transactional or transpromo type applications is also supported. This is described later in [Prefixed Delimited Transactional Data](#), refer that section for more information.

A delimited data file is used to drive a variable data application. Typically, a delimited data file is the result of some data extraction or query from a larger database system. A delimited file can also be created in a text editor or a spreadsheet and saved in a comma-separated format.

There is a limit to the maximum number of data fields allowed in a data file loaded into a document. The maximum limit will depend in the number of characters per field name. As a general rule, assuming each field name has 8 characters or less, the maximum number of data fields allowed would be about 350. So, it is recommended that you keep the limit in mind when defining field names because, as the number of characters for each field name increases, the maximum number of data fields allowed decreases.

- When defining field names in a data file it is important to avoid name conflicts with PostScript and VIPP® reserved words. therefore, it is highly recommended that you use a combination of upper and lower case characters for example FirstName, LName, Status or use an underscore as prefix/suffix for example .\_firstname, \_lname, \_status.

It is also recommended that you use at least three characters or more for field names to avoid possible reserved word conflicts. Also, you must not have field names that are composed of only numeric characters (e.g. 1234). In addition, the following characters should not be used to avoid potential conflicts with keywords and parameter handling:

```
{ } ( ) [ ] < > ~ ! @ $ % ^ * I : ' ' ? / \ "
```

- All job resources called directly in a VIPP® job or referenced through a variable or data field must have filenames composed of ONLY 7-bit ASCII characters. In addition, the following characters should not be used due to potential conflicts with PostScript and VIPP® command syntax or parameter handling:

```
{ }( ) [ ] < > ~ ! @ $ % ^ * | : ' ' ? / \ "
```



Note: Information about characters that can be used in filenames and field names: Sample or Production data filenames imported to VDE may contain characters beyond the 7-bit ASCII range. However, it is still highly recommended that you avoid the list of characters that can cause potential conflicts with PS/VIPP® command syntax and parameter handling as shown below. Data file field names may contain characters beyond the 7-bit ASCII range. However, you still need to avoid the list of characters that could cause potential conflicts with PS/VIPP® command syntax and parameter handling as shown below, AND avoid name conflicts with PS and VIPP® reserved keywords by using more than two characters in your field names and using a mix of upper and lower case characters, for example, Fname instead of fname or FNAME. Any other job resources for example image or text files MUST have filenames composed of ONLY 7-bit ASCII characters and MUST avoid using the list of characters that can cause potential conflicts with PS/VIPP® command syntax and parameter handling as shown below. The following characters should not be used in file names or field names to avoid potential conflicts with keywords and parameter handling: { } ( ) [ ] < > ~ ! @ \$ % ^ \* I : ' ' ? / \ ".

The data file is made up of many records. The record count is determined by the data extraction. VDE is not affected by the number of records in the data file, however, when the production data file contains many records a shortened version is often used for test purposes.

The first record in a delimited data file used by VDE must contain the field names, separated by the delimiter character. All subsequent records contain user data in the fields.

A typical delimiter character is the comma thus, the comma separated file, or CSV file. Sometimes a record within a comma delimited file contains a comma, as shown in the table below, which can cause data extraction problems.

<b>Field name (first record):</b>	Address1	Bonus
<b>Extracted data (second record):</b>	123 West 5th Avenue	Suite 45A
<b>Looks like this in the data file:</b>	123 West 5th Avenue, Suite 45A, \$5,000	

If this is left as is, the comma is looked at as a separator character. The value, \$5,000, is lost, because the text Suite 45A is considered to be the data value for the Bonus field. If the user data contains the delimiter character one of these two options must be chosen:

- The database file must be regenerated using a different delimiter character, which is not used in the data.
- A technique known as quoting must be used when the database file is created. When quoting is used, the database file looks like this:

<b>Field name or first record:</b>	Address1	Bonus
<b>Extracted data or second record:</b>	123 West 5th Avenue, Suite 45A	\$5,000
<b>Looks like this in the data file:</b>	123 West 5th Avenue, Suite 45A, \$5,000	

When processed, the quotes protect the comma included in the user data.

### Loading the delimited data file



Prefixed Delimited Transactional Data import is described in [Prefixed Delimited Transactional Data](#).

Once the basic InDesign layout for a variable data job has been completed, a data file must be loaded to associate

variable data with the job. The delimited data file (a CSV file) contains the variable information for the job. In its simplest form, the job is driven by the data contained in the data file's records only. For more complex or individualized jobs, Rules can be defined.

In a delimited data file, the character used as the delimiter can be any ASCII character, but is typically a comma, a colon, a space character, or Tab. The Data File Properties panel will display the first line of the data base file from which the delimiter can be determined. If in doubt, contact the database administrator or the person who provided the file. If the delimiter is None used for single field data files, Tab, or Space, select that in the GUI screen. If the delimiter is anything else, select Other and then type the delimiter character in the area provided.

The data file used in the design phase is often a subset of a much larger file that is selected during the Export phase of the project. When this occurs, both data files must share the same characteristics, such as field names, and delimiter character. While it is typical to select a larger production file during the export phase, it is also legal to use the file selected here as the print data file.

Once data file selection is complete and the delimited file loads into the job, the VDE panel is populated with the names of the database fields found in the delimited file. All the fields are loaded into VDE with a default data type of Text, as shown by the  icon, or Graphic, as shown by the  icon, to the left of the field name. Therefore, if the database file contains records that do not contain text, those records' data type must be changed to the correct data type based on the descriptions below. The actual records contained in the data file can consist of any one of the following entries:

**Text** Any character or string of characters.

**Text File** The name of a file containing text.



Note: The text file must be a UTF-8 or ASCII with character codes less than 0x80 text file. Any proprietary formatting commands or tags will be ignored and printed as text.

**Graphic** the name of a graphic element. Valid image file resources have one of the following file extensions: .jpg, .jpeg, .tif, .tiff, .eps, .ps, or .pdf. All other extensions will be ignored and will not be included when generating the VIPP® job.

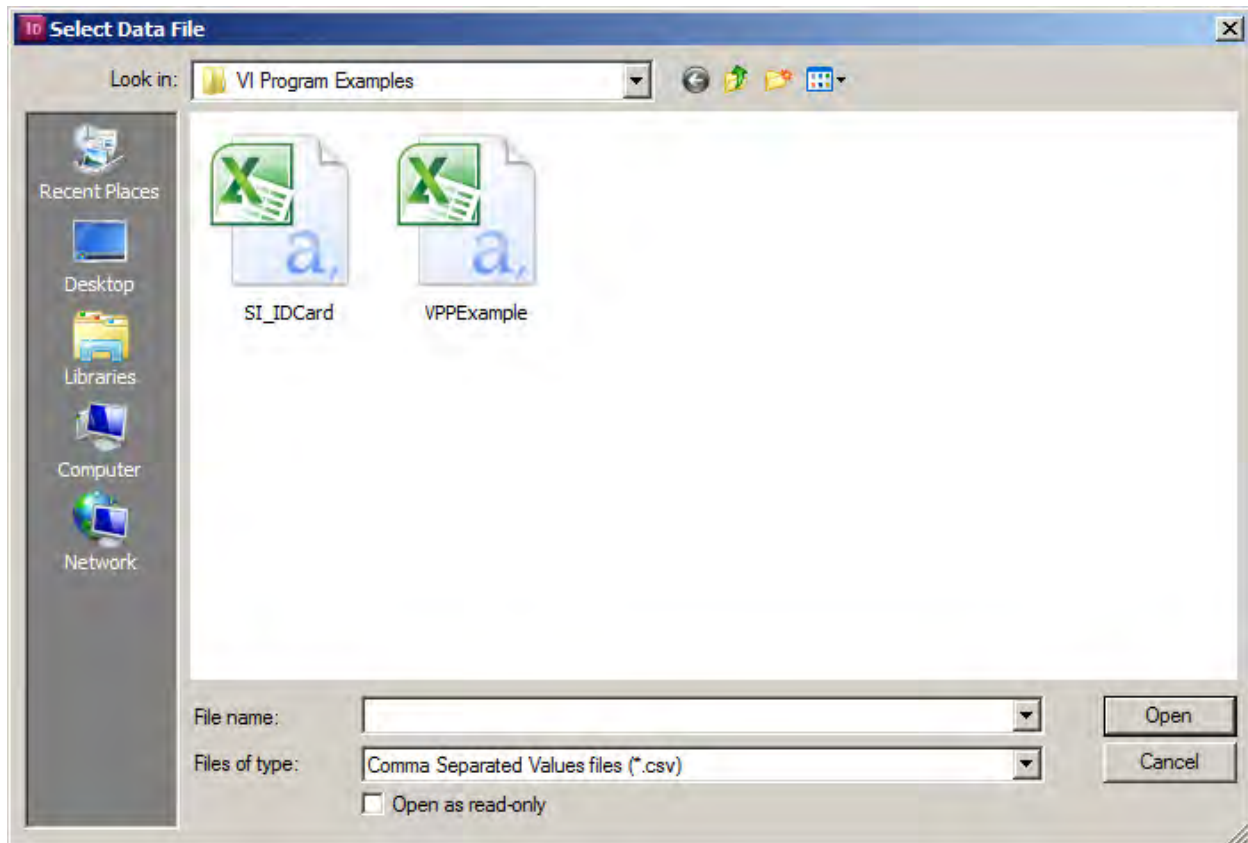
**Visibility** a visibility field can contain an indicator On or Off that is used to control the visibility of a layer or page.

**Color** a variable color field that contains the name of a defined color in the Color Swatch. If the color does not exist, you must create the color swatch. If the color swatch is not defined, the default color *White* is used.

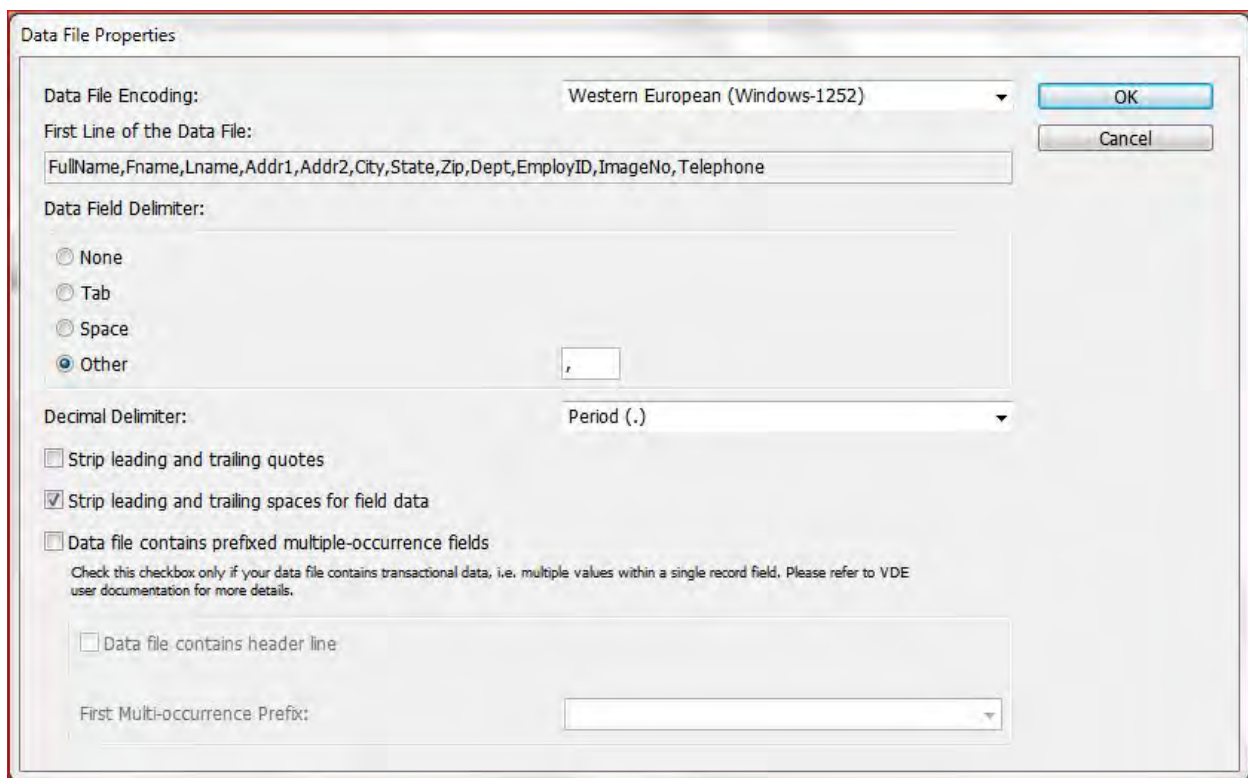
The data types listed above can also be assigned to a VIPP® data object via a conditional Rule, and added to the InDesign layout. Those objects will appear on the VDE panel list when the Rule is created.

To load the data file that is used for the job, click the **Select Data File** button.

The Select Data File dialog will open. Browse for and highlight the data file for the job, then click **Open**.



VDE opens the Data File Properties panel.



The Data File Properties panel contains these fields:

### Data File Encoding

A drop-down box contains a selection of the currently supported file encoding types. Data File encoding allows selection of different encoding schemes based on the data. When unsure of the correct encoding option, choose Unicode (UTF8), as it is appropriate for most US and European languages.

The current supported encoding types are:

- Unicode (UTF8)
- Unicode (UTF-16) (support for CSV only, not XML data)
- Western European (ISO Latin-1)
- Western European (ISO Latin-9)
- Western European (Mac OS Roman)
- Western European (Windows-1252)
- Central European (ISO Latin-2)
- Central European (Windows-1250)
- Central European (Mac OS Latin2)
- Cyrillic (Windows-1251)
- Cyrillic (CP-866)
- Cyrillic (Mac OS Cyrillic)
- Thai (Windows CP-874)
- Thai (TIS-620)
- Vietnamese (Windows-1258)
- Japanese (Shift-JIS)
- Japanese (EUC-JP)
- Greek (ISO Latin)
- Greek (Windows-1253)
- Turkish (ISO Latin-5)
- Turkish (Windows-1254)



Note: Currently, any data file selected for the InDesign document through VDE is always converted to UTF-8 before the data is copied into the VPC submission file. This allows VIPP® to handle both the variable data and existing text strings from the document itself, using the same encoding within the VIPP® Pro code i.e., no mixed encodings on the same job.

### Restrictions:

The converted data from ISO Latin-1 and ISO Latin-9 to UTF-8 could potentially be two or three times as large as the original data, depending on the number of upper-ASCII characters > 0x7F found in the data. The lower ASCII characters are always one byte in ISO Latin-\* and UTF-8.

For applications that will be run many times such as a daily report, and so on, where only the data changes, and



there are no changes to any of the resources such as forms or images; VDE supports the Just Send the Data model of VIPP® Pro, where the new data file is extracted and sent directly to the printer. Creating a new VPC using VDE is not necessary. To support this Just Send the Data model use one of these options:

- Define an init file on the printer queue refer to [Glossary of terms](#) that contains the VIPP® header file.
- Use the .nub file located in the original .vpc file for this job, and append that to the top of the new data file before submitting directly to the printer.

```

%!
%%<VIDE: encoding='windows-1252'>
%% Init Header for Submission Data Files %%
XGF
[ (VIPP_Pro_Pub) (where_Book) ] SETPROJECT
[ /LocalToUTF8 1 ] SETPARAMS
(where_Book_DM.jdt) SETJDT
(where_Book_DM.dbm) STARTDBM
Field1,Field,2,Field3,Field4,.....
data,data,data,data,.....
data,data,data,data,.....

```

The text above is an example of a .nub file. To use this Just Send the Data method, the data must use UTF8 encoding. Append the .nub file to the top of the data file. The contents of the .nub file is shown above. The blue text represents the new data file that must conform exactly to the original data file. Field names must be the same and in the same order.

Use caution when manually editing the VPC data submission file because the encoding must be maintained as UTF-8. This means that if the data must be manually edited, it must be done using a text editor that handles and displays UTF-8 correctly, and the modified file must be saved to the disk as UTF-8.

### First Line of the Data File

The data comprising the first line of the delimited data file appears here. In order to work as expected with VDE, the first line of the delimited data file MUST contain header information. The First Line of the data file is displayed to help select the Delimiter Character used in the file. For questions about the data file encoding and delimiter used in the file, see the person who generated the data file.

### Data Field Delimiter

The program defaults to Other and inserts a comma in the Other field. When the data file contains a different delimiter, that delimiter can either be selected, using one of the option buttons, or be entered into the Other field. The Delimiter Character is the character used to separate the fields in the data file. There are four options:

#### None

No delimiter, each record contains one field.

#### Tab

The delimiter character is the tab character, this option allows selection of a tab as the delimiter character (it is not always easy to enter a tab as a delimiter character, it is often done by using the hex value, this avoids having to do that).

#### Space

The space character is used to delimit the file.

## Other

Some other character is used as a delimiter. When selected, the character must be typed in the box provided. VDE defaults to a comma.

## Decimal Delimiter

The program defaults to Period (.). A comma can be selected as the decimal delimiter if required.

## Strip leading and trailing quotes

Used to strip leading and trailing quotes. If the delimiter character is used inside the data base file, it is typical for database programs to enclose the data fields in quotes. This option strips these quotes when the data field is being resolved. When checked, the quotes are discarded when populating the list. When unchecked, the quotes appear as part of the data in the list.

## Strip leading and trailing spaces for field data

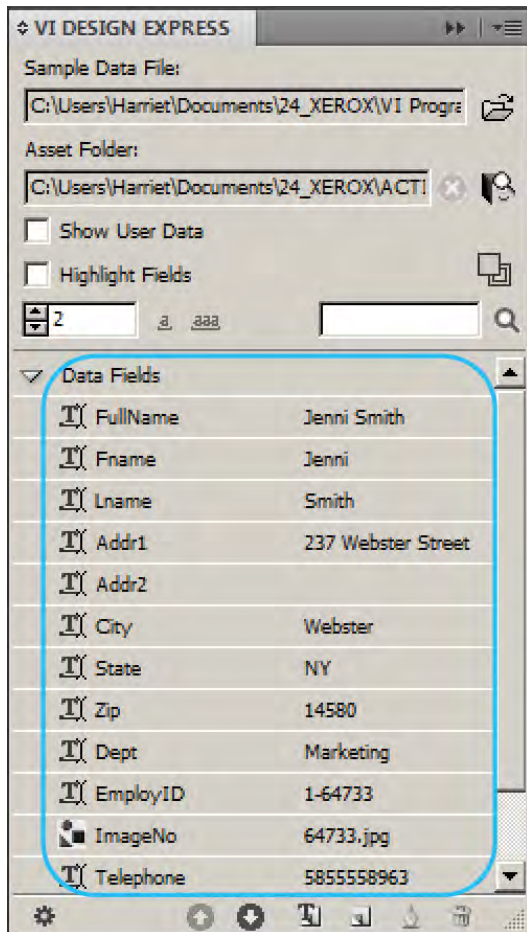
Used to strip leading and trailing blank spaces from the beginning/end of the field data.

## Data file contains prefixed multiple-occurrence fields

Do not select this check box unless using a Prefixed Delimited Transactional Data file that meets the TransPromo data specifications listed in [Prefixed Delimited Transactional Data](#). Refer to that section for more information.

## OK and Cancel

Click **OK** when all selections are completed, or **Cancel** to close the panel without assigning a data file. Once this panel is completed, select the **OK** button. The database fields immediately show up as a list in the VDE panel.



When changing the record number on the VDE panel, the field value for the new record is displayed to the right of the field name. In addition, once the InDesign layout includes inserted data file fields, the text or images will change on-screen as the records change.

## LOADING A SUBSIDIARY DELIMITED DATA FILE

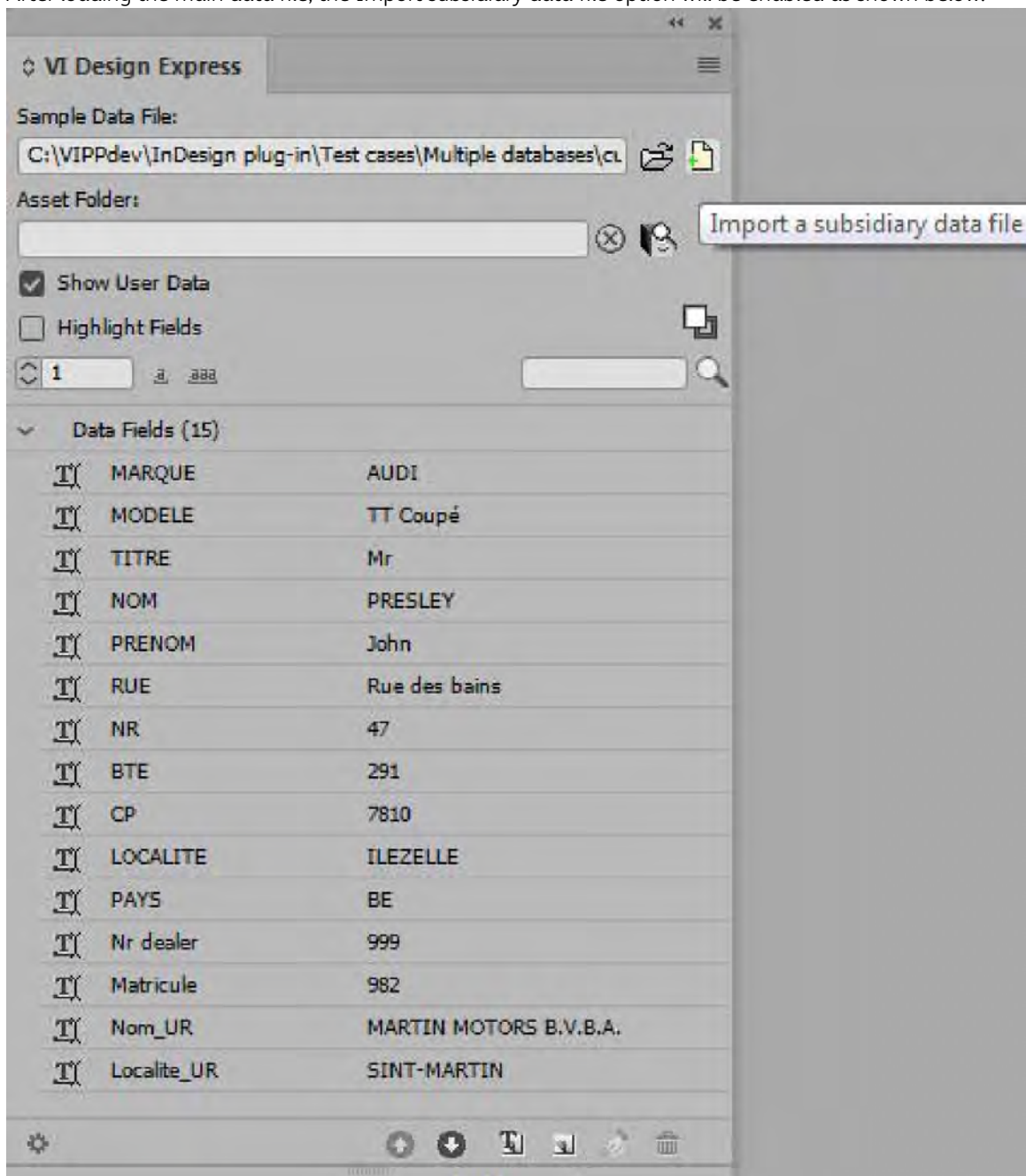
### Subsidiary Database

Subsidiary database is a capability to import an additional CSV file having a field which matches a field in the main CSV file.

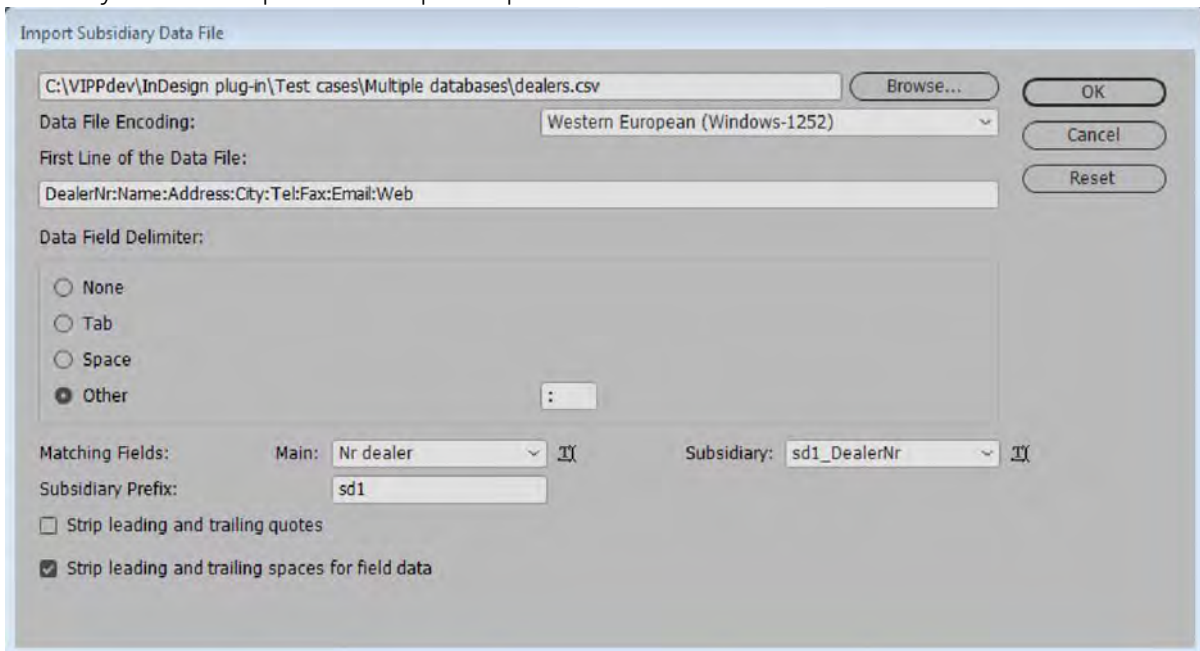
It works similarly to the main database file. Let's see a scenario to illustrate the usage.

1. Open the VDE panel, if not already open.
2. Load the main data file (customer.csv) from the VDE panel.

- After loading the main data file, the Import subsidiary data file option will be enabled as shown below.



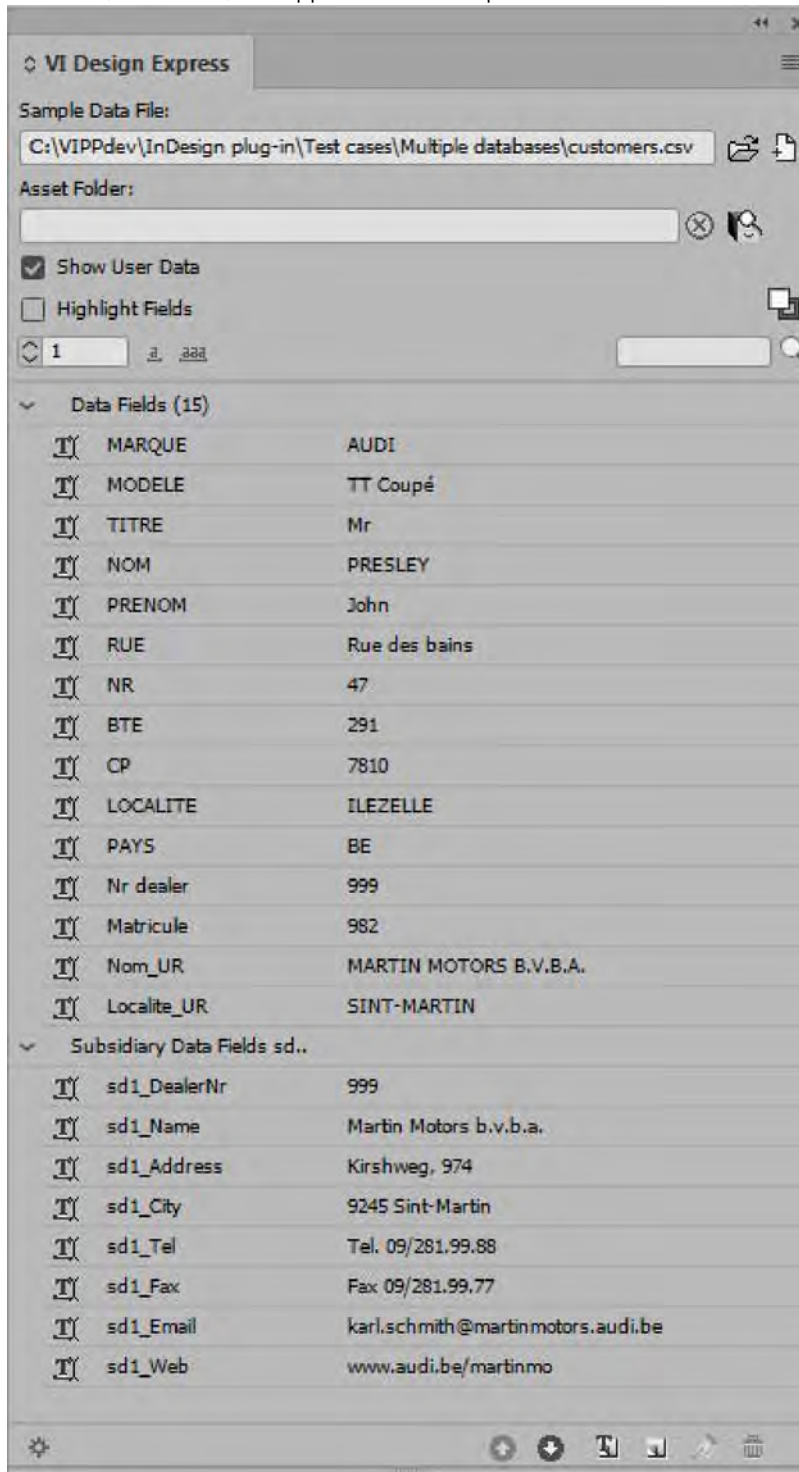
4. Click on the option Import a subsidiary data file. It will launch a new dialog where the user can load the subsidiary data file and provide the required inputs.



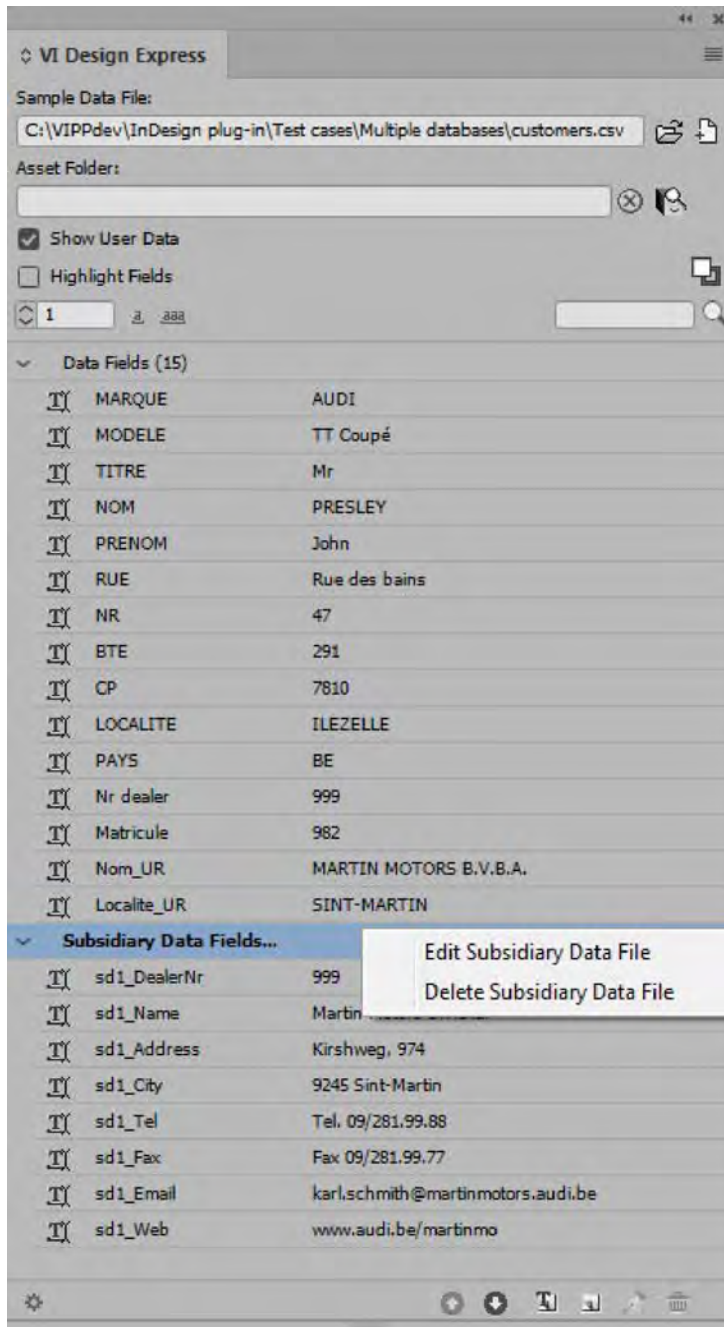
The dialog box is titled "Import Subsidiary Data File". It contains the following fields and controls:

- File Path:** A text box containing "C:\VIPDev\InDesign plug-in\Test cases\Multiple databases\dealers.csv" with a "Browse..." button to its right.
- Data File Encoding:** A dropdown menu set to "Western European (Windows-1252)".
- First Line of the Data File:** A text box containing "DealerNr:Name:Address:City:Tel:Fax:Email:Web".
- Data Field Delimiter:** A group box containing four radio buttons: "None", "Tab", "Space", and "Other" (which is selected). To the right of the "Other" radio button is a small text box containing ":".
- Matching Fields:** Two dropdown menus. The "Main:" dropdown is set to "Nr dealer" and the "Subsidiary:" dropdown is set to "sd1\_DealerNr". Both have a small icon to their right.
- Subsidiary Prefix:** A text box containing "sd1".
- Options:** Two checkboxes. The first is "Strip leading and trailing quotes" (unchecked). The second is "Strip leading and trailing spaces for field data" (checked).
- Buttons:** "OK", "Cancel", and "Reset" buttons are located on the right side of the dialog.

- After filling the required details click OK. A separate collapsible node with all fields available in the subsidiary data file (dealers.csv) will appear in the VDE panel.

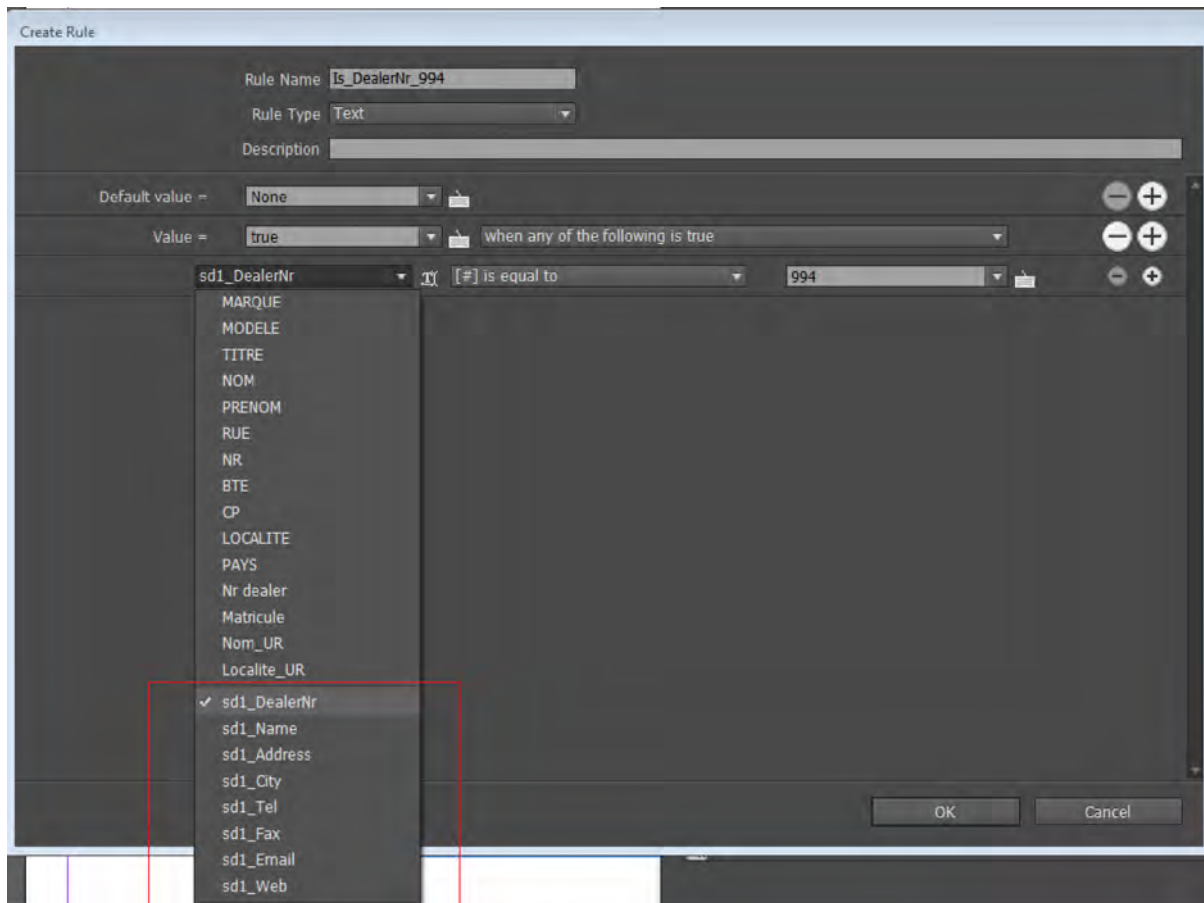


6. The node provides the following two options for the subsidiary data file in the context menu
- Edit Subsidiary Data File - opens the dialog where the user can make modifications.
  - Delete Subsidiary Data File - removes the subsidiary data file from the InDesign document.

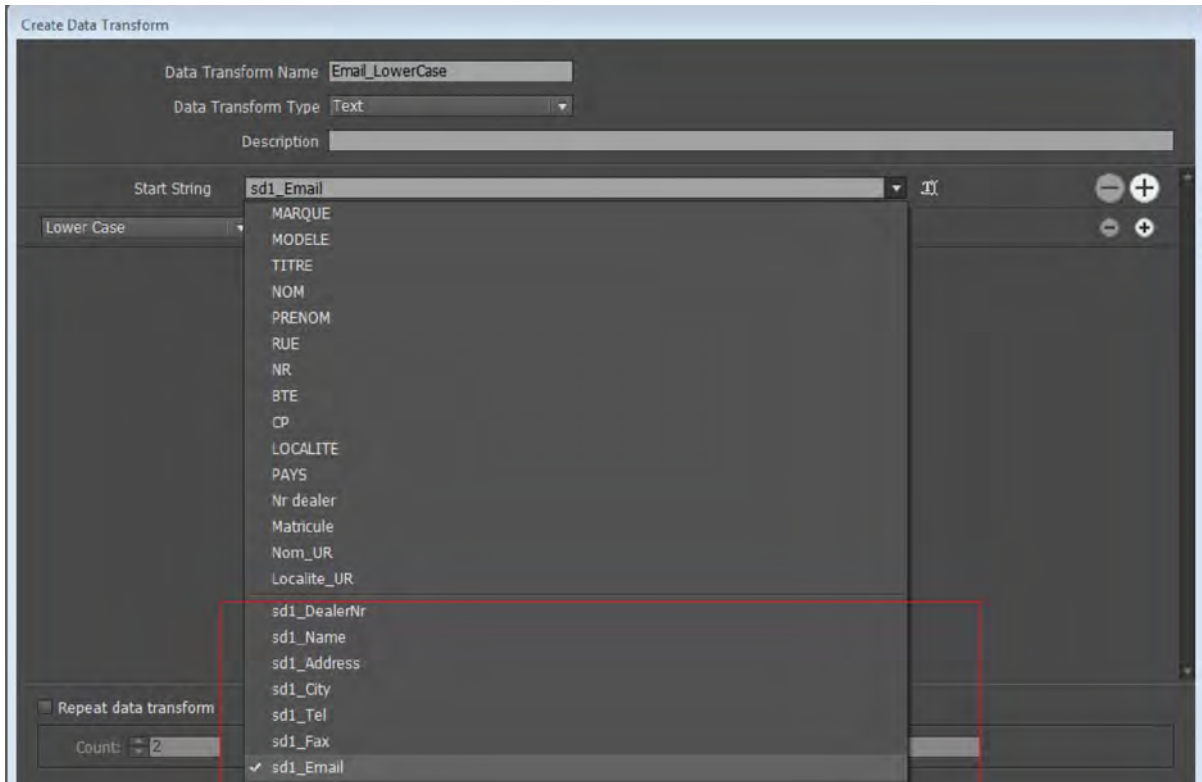




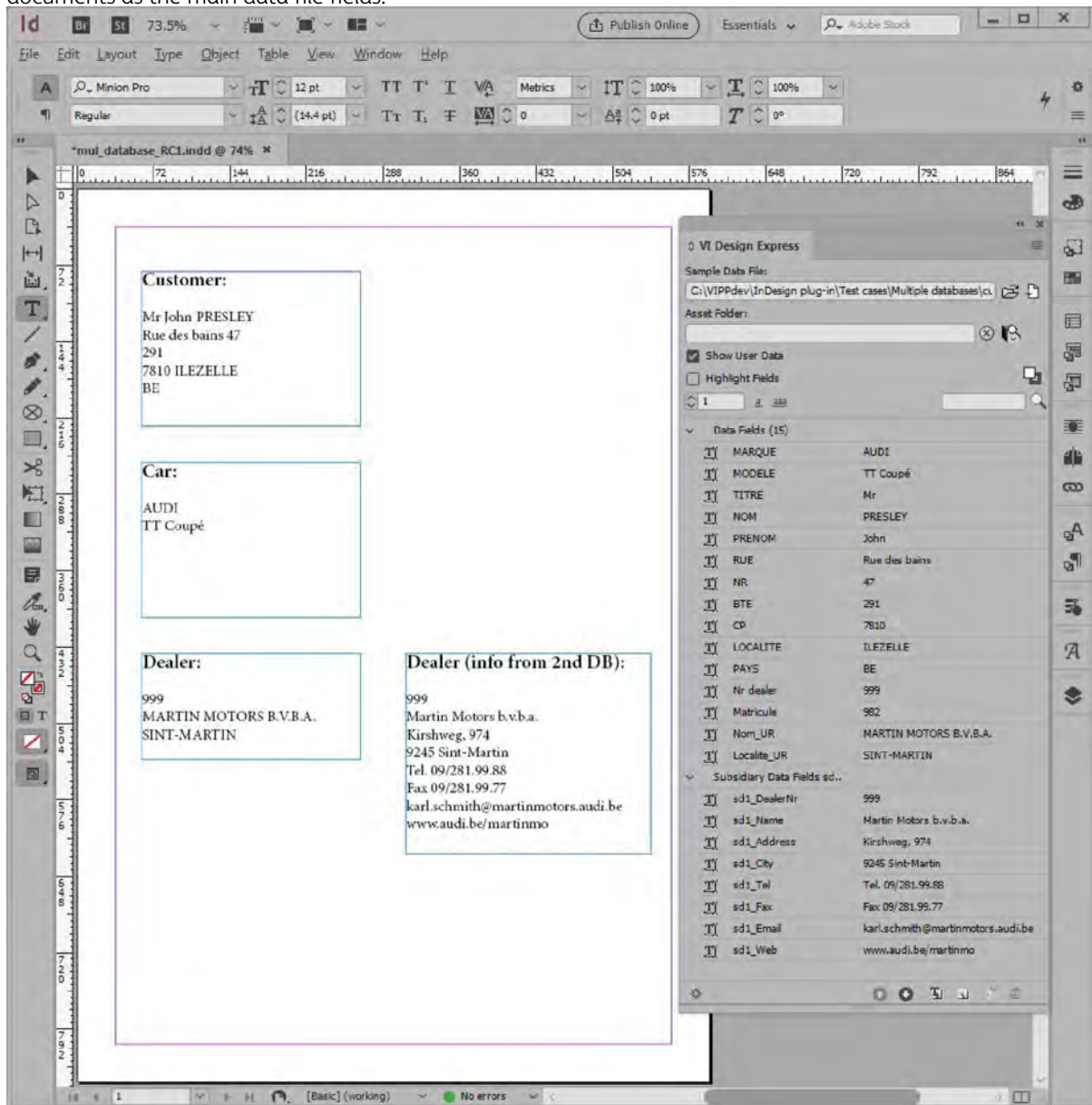
7. The subsidiary data fields are available for creating Rules and Data Transformations as shown below.







8. All subsidiary data fields behave the same as main data fields. They can be used anywhere in the InDesign documents as the main data file fields.



## DEFINING AN XML DATA FILE

An XML data file generated by a web service, or extracted from a database, can be used to drive a variable data application designed using VDE. XML Extensible Markup Language is a data format that uses start and /end tags <tagname></tagname> to encapsulate the data and attributes associated with the data file. VDE allows you to import an XML file into the VDE Data panel, and then select XML data elements to publish on the page, or for use in conditional logic.

Data may be presented within the XML data in one of two ways:

- Single Occurrence
- Limited Multiple Occurrence Tag (LMOT)

- **Unlimited Multiple Occurrence Tag (UMOT)**

The first 2 are dedicated to promotional type XML postcards, tickets, and so on. The last one is related to transactional type XML. When a tag is selected as UMOT additional VDE features are enabled to support processing of transactional data.

### Single Occurrence

A single occurrence, the most common form of XML tag, is a single data element contained within the start-tag and end-tag. For example, you may have a start-tag, <PET>, and end-tag </PET> and within that tag have the value or PET element contents Dog:

```

****
<PET> Dog </PET>
****

```

### Limited Multiple Occurrence Tag (LMOT)

A limited multiple occurrence tag (LMOT) is a tag that may be repeated more than once in a single customer record. That tag may contain other tags, but it cannot contain a nested LMOT. Nested LMOTs are not supported.

In the XML data shown below, the tags, <PHONE> and </PHONE>, are Limited Multiple Occurrence Tags that are contained within the tags, <RECORD> and </RECORD>. The <PHONE> element appears twice, once containing information about the work phone number, the second occurrence containing information about the home phone number. Unlike transactional data, these are limited. You can only have so many phone numbers. Your application may require that you print all available values for the selected tags in the LMOT group the default behavior or select a subset of the tags in the LMOT group. To select a subset, it is necessary to create a Rule. For more information, refer to [LMOT Subset Retrieval Rule generation](#).

```

****
<RECORD>
<NAME>David Kirk</NAME>
<PHONE type='landline' location='work'
  <AREACODE>310</AREACODE>
  <NUMBER>555-1234</NUMBER>
</PHONE>
<PHONE type='landline' location='home'
  <AREACODE>310</AREACODE>
  <NUMBER>555-6789</NUMBER>
</PHONE>
</RECORD>
****

```

### Unlimited Multiple Occurrence Tag (UMOT)

An unlimited multiple occurrence tag (UMOT) is very similar to a LMOT except that the number of occurrences can be very large (UMOTs typically contains transactions) and may not fit on a single page. Therefore when placing UMOTs in a frame a mechanism to automatically create continuation pages will be enabled. VDE can process only one UMOT group for a given XML file.

Although the data format is different, VDE is using the same mechanisms to process XML UMOT data as it does to process Multiple Occurrence Fields for *Prefixed Delimited Transactional Data*. Please refer to this chapter [Prefixed Delimited Transactional Data](#) to learn how to design a transactional document and understand how transactions can flow on duplicated or continuation pages.

An Unlimited multiple occurrence tag (UMOT) is a tag that may be repeated more than once in a single customer

record with no limit. This may cause page overflow when composing the document. This is what we call *transactions*, for example: list of bank operations, list of phone calls, etc. That tag may contain other tags, but it cannot contain a nested UMOT. Nested UMOTs are not supported.

```

<lines>
  <line>
    <Type>0</Type>
    <Date>01FEB</Date>
    <Time>9:00a</Time>
    <Place>Humberside</Place>
    <Number>2201 990 0003</Number>
    <Rate>24Hr</Rate>
    <Minutes>21</Minutes>
    <Amount>180</Amount>
  </line>
  <line>
    <Type>0</Type>
    <Date>25JAN</Date>
    <Time>9:00a</Time>
    <Place>Humberside</Place>
    <Number>2201 990 0003</Number>
    <Rate>24Hr</Rate>
    <Minutes>10</Minutes>
    <Amount>90</Amount>
  </line>
</lines>

```

In the above XML Data, the <line> and </line> tag are Unlimited Multiple Occurrence Tag (UMOT) that are contained within tag <lines> and </lines>. The <line> appears unlimited times for each record and are not fixed for each record.

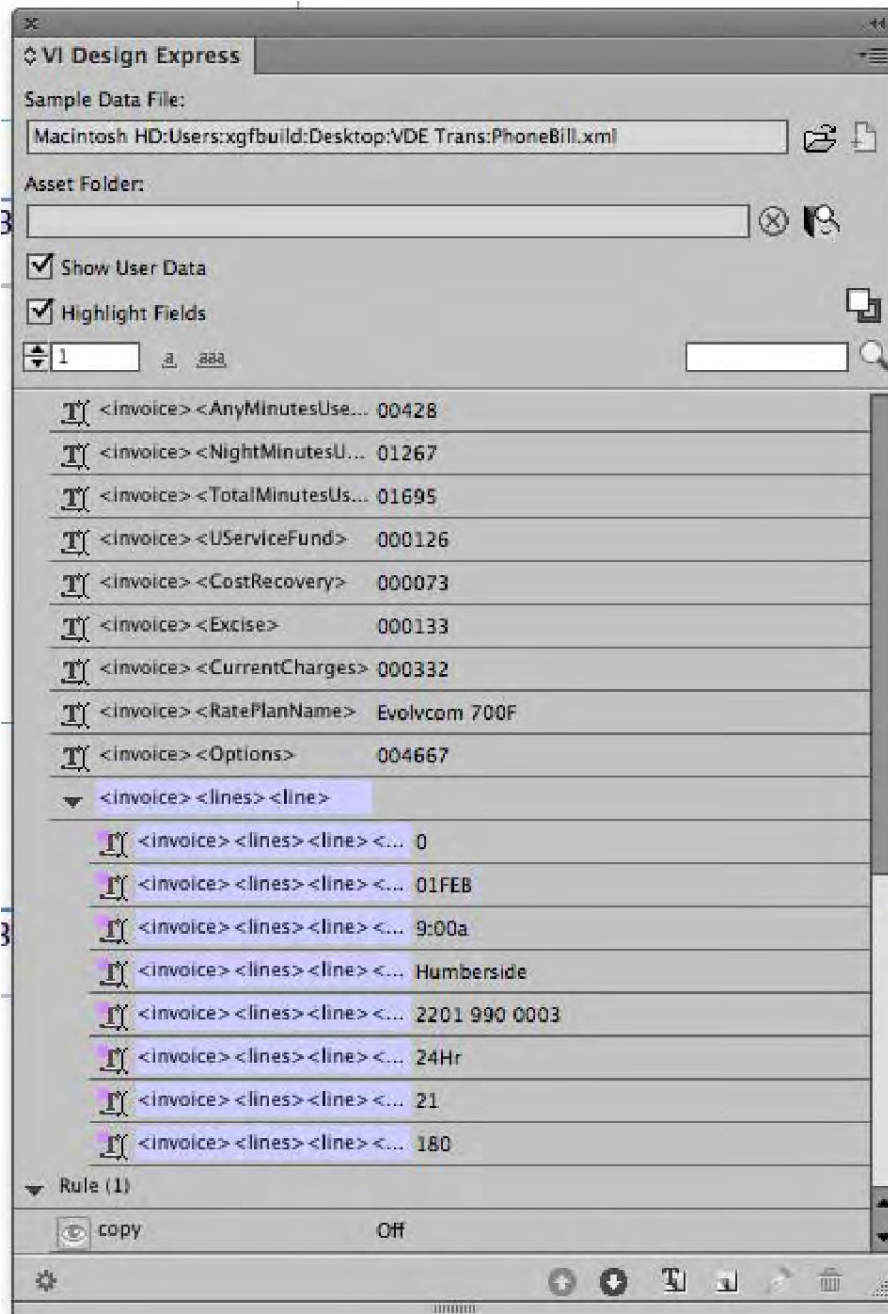
In the sample XML data file that follows, the tag <lines> <line> .... </line> <line> ... </line> </lines> are example of UMOT group. There can be any number of <line> ... </line> tag for each record. When an UMOT group is shown in the VDE panel only the first occurrence of the UMOT <line> tag will be shown, remaining values will be added to the transaction table when created.

```

<lines>
  <line>
    <Type>0</Type>
    <Date>01FEB</Date>
    <Time>9:00a</Time>
    <Place>Humberside</Place>
    <Number>2201 990 0003</Number>
    <Rate>24Hr</Rate>
    <Minutes>21</Minutes>
    <Amount>180</Amount>
  </line>
  <line>
    <Type>0</Type>
    <Date>25JAN</Date>
    <Time>9:00a</Time>
    <Place>Humberside</Place>
    <Number>2201 990 0003</Number>
    <Rate>24Hr</Rate>
    <Minutes>10</Minutes>
    <Amount>90</Amount>
  </line>
</lines>


```



Each field inside the <line> tag will be shown in the VDE panel under the UMOT group name <invoice><lines><line>. Expanding the tree, you will be able to see all the fields and corresponding values as shown in the below image.



### Loading the XML data file

The XML file used in the design phase of the application should be a subset of the larger production XML file that can be selected during the export phase of the project. Using a subset of the larger production file will allow VDE to work more efficiently during the design phase. This test file should contain all the expected tags and LMOT/UMOT groups, if used that will be found in the production XML file. The tag names must match the production data. If your production XML file is relatively small then you can use that file for both design and production.

Once XML file selection is complete and the XML file is imported into VDE, the VDE panel is populated with the names of the XML tags found in the XML file. VDE will assign the default Type value of Text  to all tags, unless

the file extension can be interpreted as a graphic , or text file  type as shown by the icon to the left of the tag name.

It is recommended that you review the type value that VDE has associated with the tags. If the automatically assigned type value is incorrect, manually change the tag type based on the descriptions below. This is important because the tag type determines the functionality that can be assigned to the tag.

<b>Text</b>	Any character or string of characters.
<b>Text File</b>	The name of a file containing text. NOTE The text file must be a plain UTF-8 or ASCII with character codes less than 0x80 text file. Any proprietary formatting commands or tags will be ignored and printed as text.
<b>Graphic</b>	The name of a graphic element. Valid image file resources have one of the following file extensions: .jpg, .jpeg, .tif, .tiff, .eps, .ps, or .pdf. All other extensions will be ignored and will not be included when generating the VIPP® job.
<b>Visibility</b>	The visibility field can contain an indicator On or Off that is used to control the visibility of a layer or page.
<b>Color</b>	The variable color field that contains the name of a defined color in the Color Swatch. If the color does not exist, you must create the color swatch. If the color swatch is not defined, the default color White is used.

The data types listed above can also be assigned to a VIPP® data object via a conditional Rule, and added to the InDesign layout. Those objects will appear on the VDE panel list when the Rule is created.

An example XML data file follows. The tag names used below are for example purposes only. Other XML data files may use different tag names.

The data encoding is defined in the first line. It is defined as utf8, which is the default if not otherwise specified.

Some HEADER data is supplied between the tags <HEADER...> and </HEADER>. This is optional and may not be present in all XML data files.

All customer records are found within the <RECORDS> and </RECORDS> tags. The sample below contains three customer records, which are defined within <RECORD> and </RECORD> tags.

It is important to identify the tag that starts each customer record. It is called the iterator tag. Similar to defining the delimiter for a delimited data file, the iterator tag must be identified so that VDE can identify each customer record. In the following data file example, the <RECORD> tag is the iterator, as it defines the start of a new customer record. The full XML path would be <RECORDS><RECORD>.

```
<?xml version='1.0' encoding='UTF-8'?>
<USERDATA>
<HEADER Attr0="&quot;Tom &amp; Adams&quot;;" Attr1="Value1" Attr2="Value2" Attr3="Value3">
  <F1>Tom &amp; Adams</F1>
  <F2>Los &amp; Angeles</F2>
</HEADER>
<RECORDS>
  <RECORD>
    <TO>
      <FIRSTNAME>David</FIRSTNAME>
```



```

<LASTNAME>Kirk</LASTNAME>
  <PHONE type='cell' location='work'>
    <AREACODE>310</AREACODE>
    <NUMBER>555-1234</NUMBER>
  </PHONE>
  <PHONE type='landline' location='home'>
    <AREACODE>818</AREACODE>
    <NUMBER>555-6789</NUMBER>
  </PHONE>
</TO>
<FROM>
  <FIRSTNAME>Janet</FIRSTNAME>
  <LASTNAME>Smith</LASTNAME>
</FROM>
</RECORD>
<RECORD>

```

```

<TO>
  <FIRSTNAME>Mary</FIRSTNAME>
  <LASTNAME>O'Donald</LASTNAME>
  <PHONE type='fax' location='home'>
    <AREACODE>310</AREACODE>
    <NUMBER>555-2200</NUMBER>
  </PHONE>
  <PHONE type='landline' location='work'>
    <AREACODE>818</AREACODE>
    <NUMBER>555-0022</NUMBER>
  </PHONE>
  <PHONE type='cell' location='mobile'>
    <AREACODE>713</AREACODE>
    <NUMBER>555-2222</NUMBER>
  </PHONE>
</TO>
<FROM>
  <FIRSTNAME>Marvin</FIRSTNAME>
  <LASTNAME>Anderson</LASTNAME>
</FROM>
</RECORD>

```

```

<RECORD>
<TO>
  <FIRSTNAME>Jane</FIRSTNAME>
  <LASTNAME>Patterson</LASTNAME>
  <PHONE type='landline' location='home'>
    <AREACODE>213</AREACODE>
    <NUMBER>555-3300</NUMBER>
  </PHONE>
  <PHONE type='landline' location='work'>
    <AREACODE>310</AREACODE>

```

Tags that are not highlighted in the XML data example are considered Single Occurrence tags.

Tags that are highlighted in green are LMOT groups. The <PHONE> tags are repeated multiple times within each customer record. An LMOT group can contain only one instance of the repeated tags, or may contain two or more instances, as shown here. Each instance of the LMOT group will have the same set of tags repeated for each instance

```

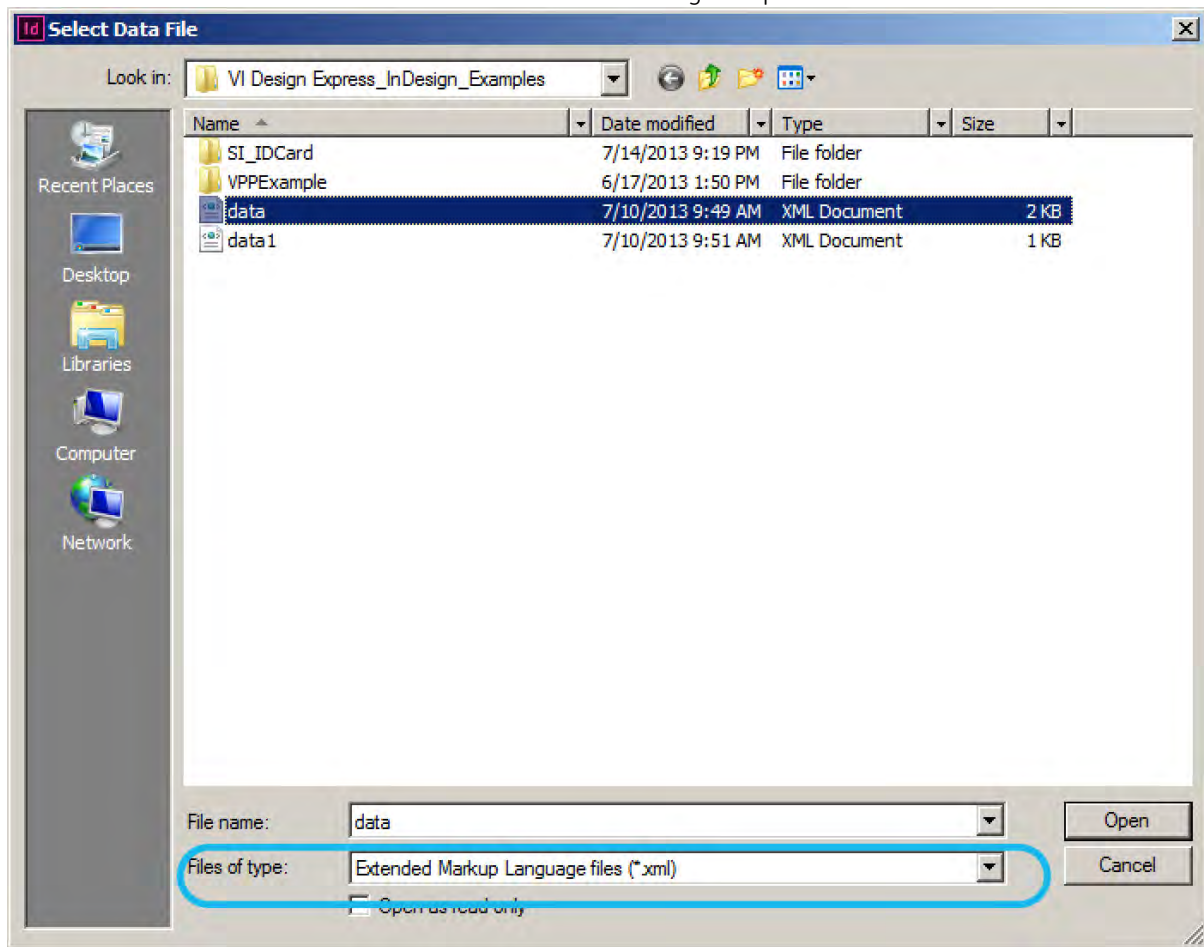
  <NUMBER>555-0033</NUMBER>
</PHONE>
</TO>
<FROM>
  <FIRSTNAME>Robert</FIRSTNAME>
  <LASTNAME>Dawson</LASTNAME>
</FROM>
</RECORD>
</RECORDS>
<FOOTER>
  <F1>Footer FieldA</F1>
  <F2>Footer FieldB</F2>
</FOOTER>
</USERDATA>
</RECORDS>
....
<calls>
<call>
  <Type>0</Type>
  <Date>01FEB</Date>
  <Time>9:00a</Time>
  <Place>Humboldt</Place>
  <Number>2201 990 0003</Number>
  <Rate>24hr</Rate>
  <Minutes>21</Minutes>
  <Amount>180</Amount>
</call>
<call>
  <Type>0</Type>
  <Date>25JAN</Date>
  <Time>9:00a</Time>
  <Place>Humboldt</Place>
  <Number>2201 990 0003</Number>
  <Rate>24hr</Rate>
  <Minutes>10</Minutes>
  <Amount>90</Amount>
</call>
.... Large number of <call> tags ...
</calls>
</RECORDS>

```

## Loading the XML data file

To load the XML data file:

1. Click on the **Select Data File** button. The Select Data File dialog will open.



2. Set the File of Type option to **Extended Markup Language files (\*.xml)** and select the XML file from the list displayed.
3. Select **Open** to continue.

## Data Encoding

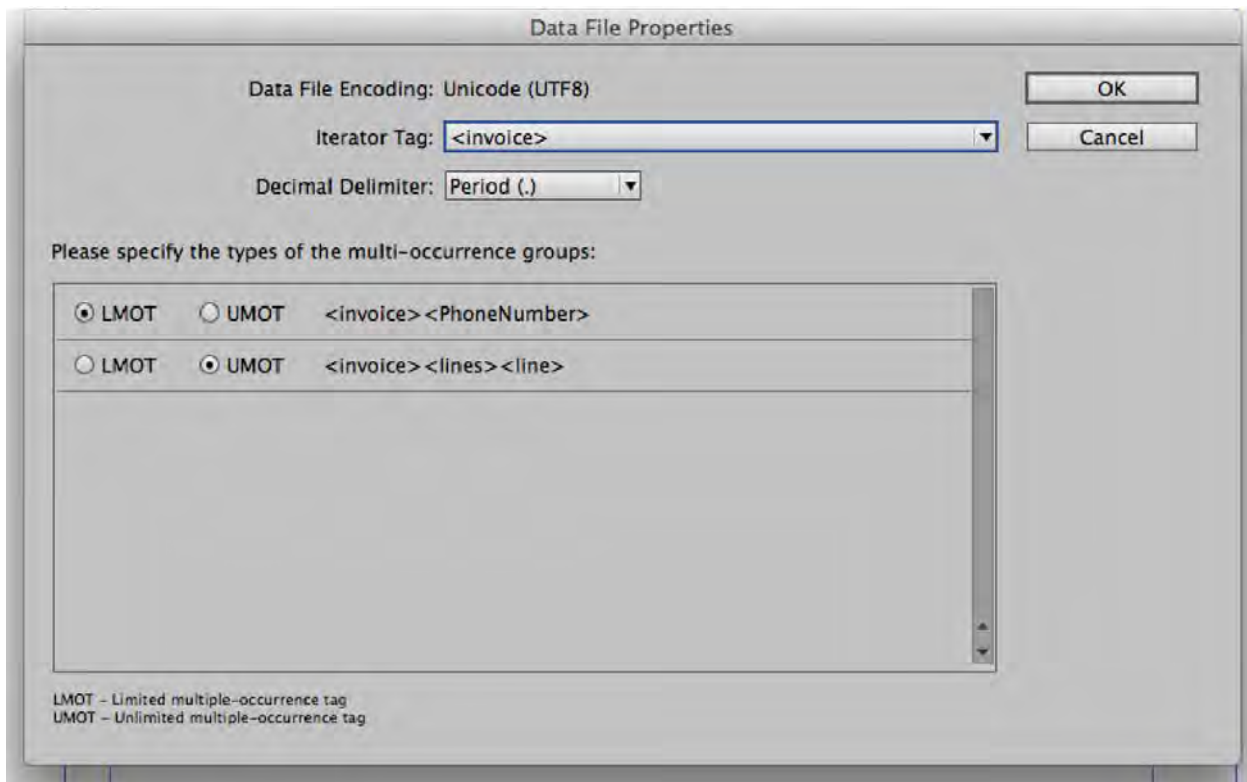
The data encoding used should be specified in the XML data file. If it is not, utf-8 will be used as the default encoding.

The current supported encoding types are:

- Unicode (UTF8)
- Western European (ISO Latin-1)
- Western European (ISO Latin-9)
- Western European (Mac OS Roman)
- Western European (Windows-1252)
- Central European (ISO Latin-2)
- Central European (Windows-1250)



- Central European (Mac OS Latin2)
- Cyrillic (Windows-1251)
- Cyrillic (CP-866)
- Cyrillic (Mac OS Cyrillic)
- Thai (Windows CP-874)
- Thai (TIS-620)
- Vietnamese (Windows-1258)
- Greek (ISO Latin)
- Greek (Windows-1253)
- Turkish (ISO Latin-5)
- Turkish (Windows-1254)



When the Data File Properties panel shown above is displayed, you need to verify or change:

#### Iterator Tag

The Iterator tag is the first tag of each new customer record and will be used by VI Design Express to identify the start of the new customer grouping.

#### Decimal Delimiter

The decimal delimiter should be set based on your country default. The allowable options are period or comma.

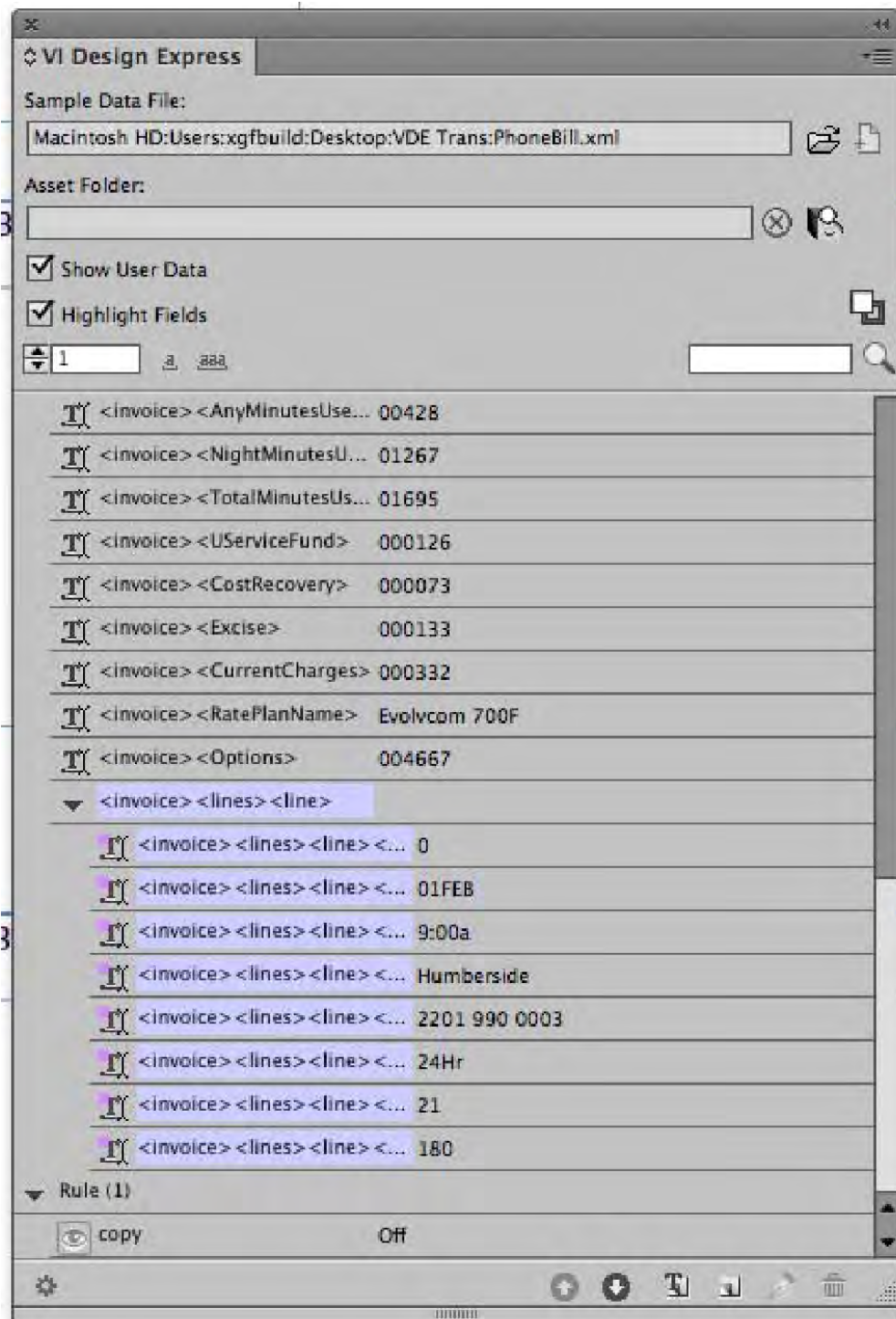
## Choose Tag Type

**Please specify the type of Multiple Occurrence Tag** This will list all the Multiple Occurrence tag from the XML and prompts the user to choose the type of occurrence LMOT or UMOT. There can be only one UMOT.

Once you have identified the Iterator Tag and Decimal Delimiter, click the **OK** button.

VDE will parse the data file and try to identify the tag type. If fields are not identified correctly you can right click the incorrect tag to modify these settings.

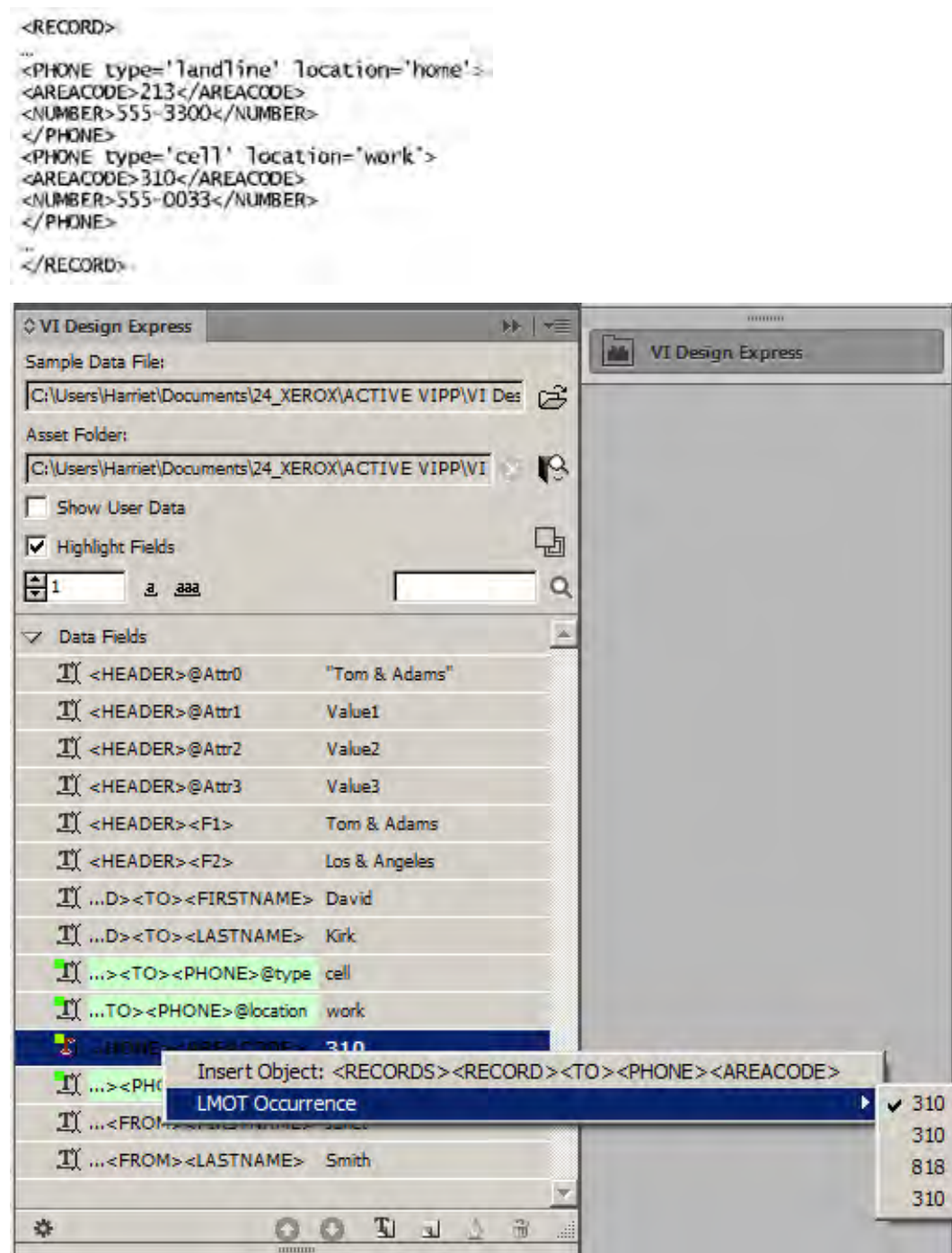
VDE will display the data panel. The data panel will display the tag type, the tag path right justified and the tag value.



If, when parsing the XML data file, VDE will display identified LMOT group in green and identified U MOT group in purple. If there are multiple LMOT groups, they will be shown in alternating shades of green. LMOTs will use Type marker with green and U MOTs will use Type marker with purple color.

In the sample XML data file that follows, the <PHONE> ...</PHONE> tags are an example of an LMOT group. The first customer record has two occurrences of phone data, one for the land line phone and one for the cell. When an LMOT group is displayed in the data panel, the first occurrence of the tag values are shown initially. You can change

the occurrence shown by right-clicking on an LMOT tag, highlighting the tag and selecting the occurrence you want to display in the data panel.



The tags highlighted in green are considered to be LMOT groups. The values displayed are the first occurrence values in the LMOT group for those tags. You can change the occurrence being displayed by right-clicking any of the LMOT tags and selecting the LMOT Occurrence option. This will display all occurrence values for that LMOT tag. Changing the occurrence for one tag will change all tags in that LMOT group. It may be necessary to change the occurrence being displayed to validate rules using LMOT tags. Otherwise, it has no bearing other than that the occurrence selected will be the tag data displayed in the data panel and in InDesign when the tag is placed on the

page.

If there are multiple LMOT groups within a customer record, each group will be highlighted in alternating shades of green.

### Using XML Data in your document design

When using either single occurrence, Limited Multiple Occurrence or Unlimited Multiple Occurrence tag XML data into your document you must be aware of the type of XML tags that are included, either single occurrence or Limited Multiple Occurrence tag.

A single occurrence tag can be placed on the page by inserting the text tool into a text frame or table and double-clicking on the tag element in the data panel. This is very similar to placing delimited fields into a text frame (or table). The majority of XML data is treated as Single Occurrence Tags. These can be used in rules, data transforms and placed in text frames in your document using the same operations used for delimited data.

A Limited Multiple Occurrence Tag (LMOT) is a different type of tag element, which will react differently when placed in the document. Because the tag is part of a repeated set of related tag data, the value for the tag varies, depending upon the occurrence of the tag within the LMOT group. Using the XML data example on page 91, the first customer record tags within <RECORD> and </RECORD>, have two sets of <PHONE> data, each set, called an occurrence, contains the same set of XML tag names, but, with different data values for the tags depending on the occurrence.

When an LMOT tag(s) is placed in a text frame the value, shown in the tag occurrence selected in the data panel, will be shown on the InDesign screen. However, when printed, the corresponding tag values will be printed one below the other for each occurrence of the selected LMOT tags within the currently selected customer record.

To select only some occurrences from an LMOT group, you need to create a rule to retrieve a subset of that group. Refer to [LMOT Subset Retrieval Rule generation](#). The rule will be evaluated and will create a subset data element in the data panel. Placing this data object in a text frame will print just the subset of evaluated values.

Because of the way an LMOT tag is processed and the fact that it will print each occurrence of the tag's values one below the other, care needs to be taken when mixing static and/or variable data with a LMOT tag.

```
<RECORD>
<TO>
<FIRSTNAME>Mary</FIRSTNAME>
<LASTNAME>O&apos;Donald</LASTNAME>
<PHONE type='fax' location='home'>
<AREACODE>310</AREACODE>
<NUMBER>555-2200</NUMBER>
</PHONE>
<PHONE type='landline' location='work'>
<AREACODE>818</AREACODE> <NUMBER>555-0022</NUMBER>
</PHONE>
<PHONE type='cell' location='mobile'>
<AREACODE>713</AREACODE>
<NUMBER>555-2222</NUMBER>
</PHONE>
</TO> <FROM>
<FIRSTNAME>Marvin</FIRSTNAME>
<LASTNAME>Anderson</LASTNAME>
</FROM>
</RECORD>
```

To print the sample below using the XML code sample above:

Use these Phone Numbers:  
310-555-2200  
818-555-0022  
713-555-2222

You may be tempted to create a single text frame and place the static text Use these Phone Numbers: followed by the <AREACODE> LMOT tag, and a dash character followed by the <PHONE> tag. This is incorrect as the text frame will be repeated for each occurrence of PHONE in the LMOT group. Doing so would produce this:

Use these Phone Numbers:  
310-555-2200

Use these Phone Numbers:  
818-555-0022

Use these Phone Numbers:  
713-555-2222

The correct method to create the desired output is to create two text frames. The first text frame containing the text Use these Phone Numbers: The second text frame containing the <AREACODE> LMOT tag, and a dash character followed by the <PHONE> tag.

When processed, this produces the correct output as only the <AREACODE> tag, the dash character, and the <NUMBER> tag will be repeated per occurrence. However, only the first occurrence value, or the currently selected occurrence value for the LMOT tags will be displayed in the text frame in InDesign.

Because of this different action with LMOT tags, it is recommended that you do not mix static and variable text with LMOT tags, unless you understand the expected output. The text frame with the LMOT tags will repeat down the page for each occurrence in the LMOT group for the current customer record.

To print all the area codes and phone numbers with location= home from the above example, you need to create two LMOT subset retrieval rules. These rules will be used to select the values for <AREACODE> and <NUMBER> when the location tag is equal to home. This will generate two LMOT data objects in the data panel that can now be used to place the area codes and phone numbers as a subset of the LMOT group in a text frame. This is explained in more detail in [LMOT Subset Retrieval Rule generation](#).

### Using XML data in tables

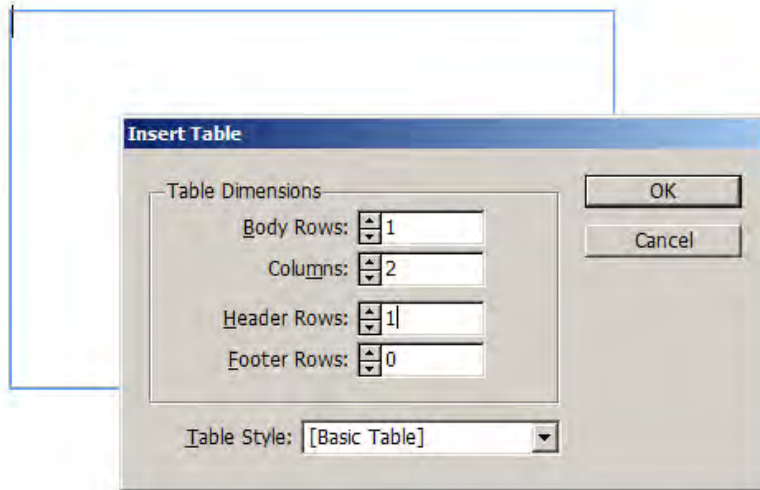
XML data can be inserted into InDesign tables.

For single occurrence tags the process for placing a tag in a table is similar to the process used for delimited data: Place the Type Tool cursor in the table element and double-click the tag in the VDE panel that you are placing into the table.

For limited multiple occurrence tags (LMOT) the process is similar, but because the tag is a LMOT, there could be multiple values for the LMOT tag. Therefore, the table is created as a single row table with optional headers or footers in a text frame large enough to contain the multiple LMOT values for the tags selected. If the largest LMOT group for the tags selected, has three occurrences, the text frame needs to be large enough to populate three rows, plus the optional header and footer. Each LMOT value will be placed in its own row in the table one below the other. If the table contains multiple columns, the data in the columns will also be repeated. Static data or single occurrence tags will be repeated in each row, LMOT tags will print the next value for the LMOT occurrence.



1. To create a table that will contain a list of phone number details using the example data file beginning on page 91, follow the steps below. In the example, the maximum number of phone Go to Next Page occurrences in a customer record in the production data will not exceed three. For your jobs, the supplier of the XML data file should supply this type of information to the designer.
2. Create an InDesign text frame large enough for three rows of data. If a header and/or footer will be added to the table, the text frame must be big enough to accommodate any header or footer rows in addition to the data rows.
3. With the Type Tool cursor in the text frame, select the Table option from the InDesign menu bar. The Insert Table panel is displayed.



4. Set the Body Rows value to 1. This is the setting used whenever LMOT data is used in a table.
5. Enter the values for the numbers of columns and Header/Footer rows. This example table will contain two columns, one header row, and will not include a footer row.
6. Adjust the text frame to fit the data. The text frame needs to be wide enough to contain the Area Code and Phone Number. It also needs to be high enough to support the maximum number of LMOT values for Phone, plus a row for the optional Header Row. Information about the maximum number of LMOT values is supplied as part of the XML data file. In the example data file, the maximum number of occurrences of PHONE in this LMOT group is 3.
7. Adjust the column widths to fit your requirements.
8. Add the Header Text. The table header will be printed only once.
9. Add the XML tags for the table.
10. In the first column add the Location element tag.

11. In the second column add the AREACODE tag followed by a space character, a dash character and another space character followed by the NUMBER tag.

Location	Phone Number
work	310 - 555-1234

Although only one row is shown in the InDesign layout, when the document is exported using the example data file, the following tables are built for each customer record.

Customer Record 1:

Location	Phone Number
work	310 - 555-1234
home	818 - 555-6789

Customer Record 2:

Location	Phone Number
home	310 - 555-2200
work	818 - 555-0022
mobile	713 - 555-2222

Customer Record 3:

Location	Phone Number
home	213 - 555-3300
work	310 - 555-0033



## Using UMOT in tables

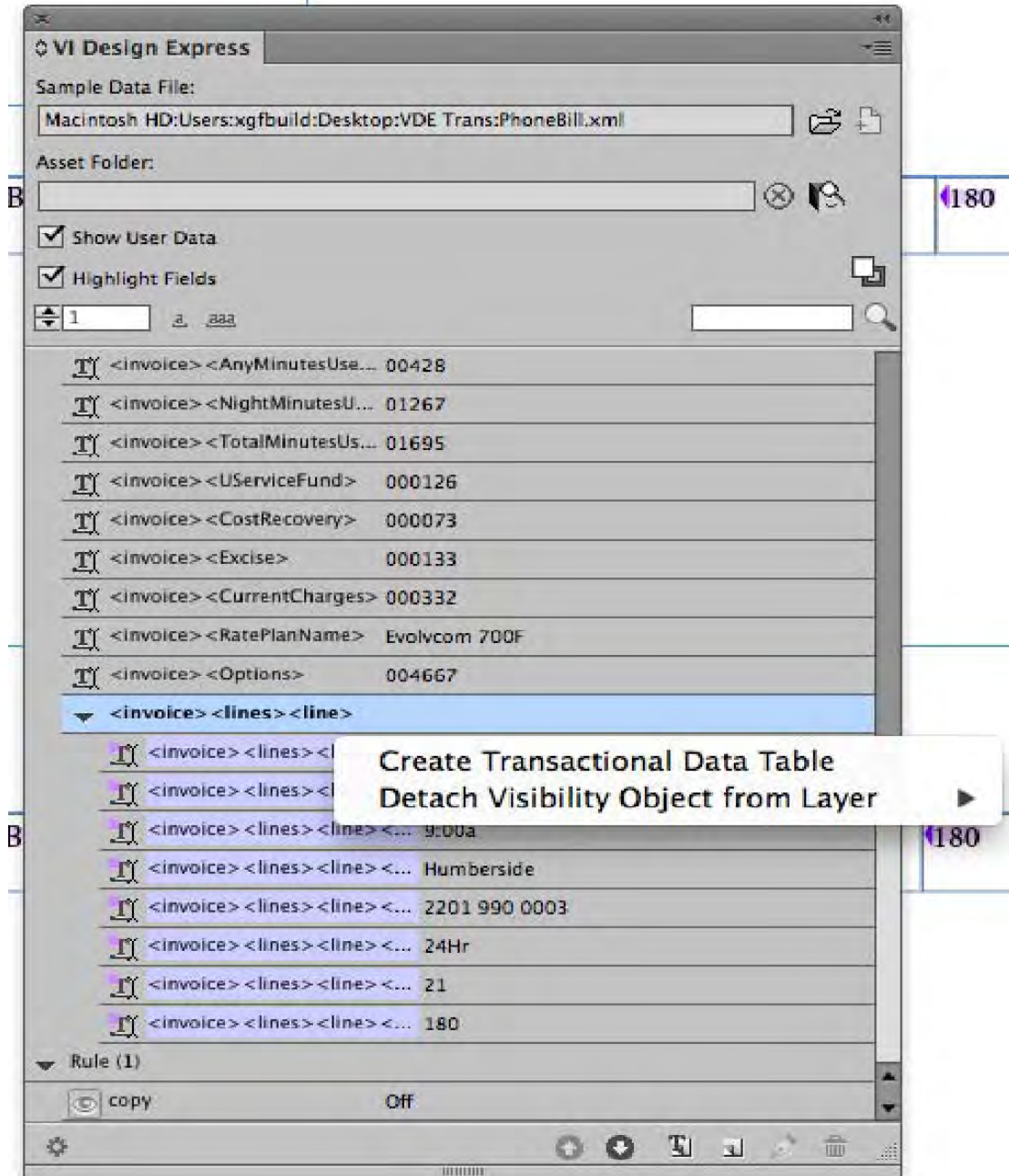
For unlimited multiple occurrence tags (UMOT) the process is similar, but because the tag is a UMOT, there could be indefinite values for the UMOT tags. Therefore, the table is created as a single row table with optional headers or footers in a text frame large enough to contain the multiple UMOT values for the tags selected. If the table contains multiple columns, the data in the columns will also be repeated. Static data or single occurrence tags will be repeated in each row, UMOT tags will print the next value for the UMOT occurrence. Here are some rules to follow:

- A frame that contains UMOTs (fields from the transaction tag) is a UMOT frame.
- A page that contains a UMOT frame is a UMOT page.
- There can be several UMOT frames in a UMOT page and several UMOT pages in a document.
- All UMOT pages must be consecutive.
- All UMOT frames of all UMOTS pages are filled in sequence.
- If no UMOT frame is filled in a given UMOT page, that page is not imaged for the document created for the data set related to the current iterator tag.
- If necessary the last UMOT page is re-used until all transactions are exhausted.

If the value UMOT occurrence overflows the residing UMOT text frame, then the information is passed to next UMOT text frame in same or next UMOT Page. If there is only one UMOT frame and the values overflow, then table is carried over to the next page until next record.

1. Place a text frame in the page long enough to accommodate all the UMOT tags comfortably. (if not the data will shrink in the cell)

- Now make sure the text frame is selected and Right click on the UMOT group in the VDE panel and then click create transactional data table.



3. VDE will create the transactional table in the selected text frame as shown below, with each column for each UMOT tag values.



4. Now we can edit the table as required to add the header or footer. When we export the document to PDF or VPC, we will be able to see the frame is filled with all the transactional data from the XML data file.

### SELECTING AN ASSET FOLDER

Assets also known as *resources* can be any type of file used in the application such as a text file, or a graphic; they are typically embedded into the document via variable data or conditional logic.

All resources intended for use in the application should be contained in a single asset folder, which is a user-defined location on the Windows or Mac system.

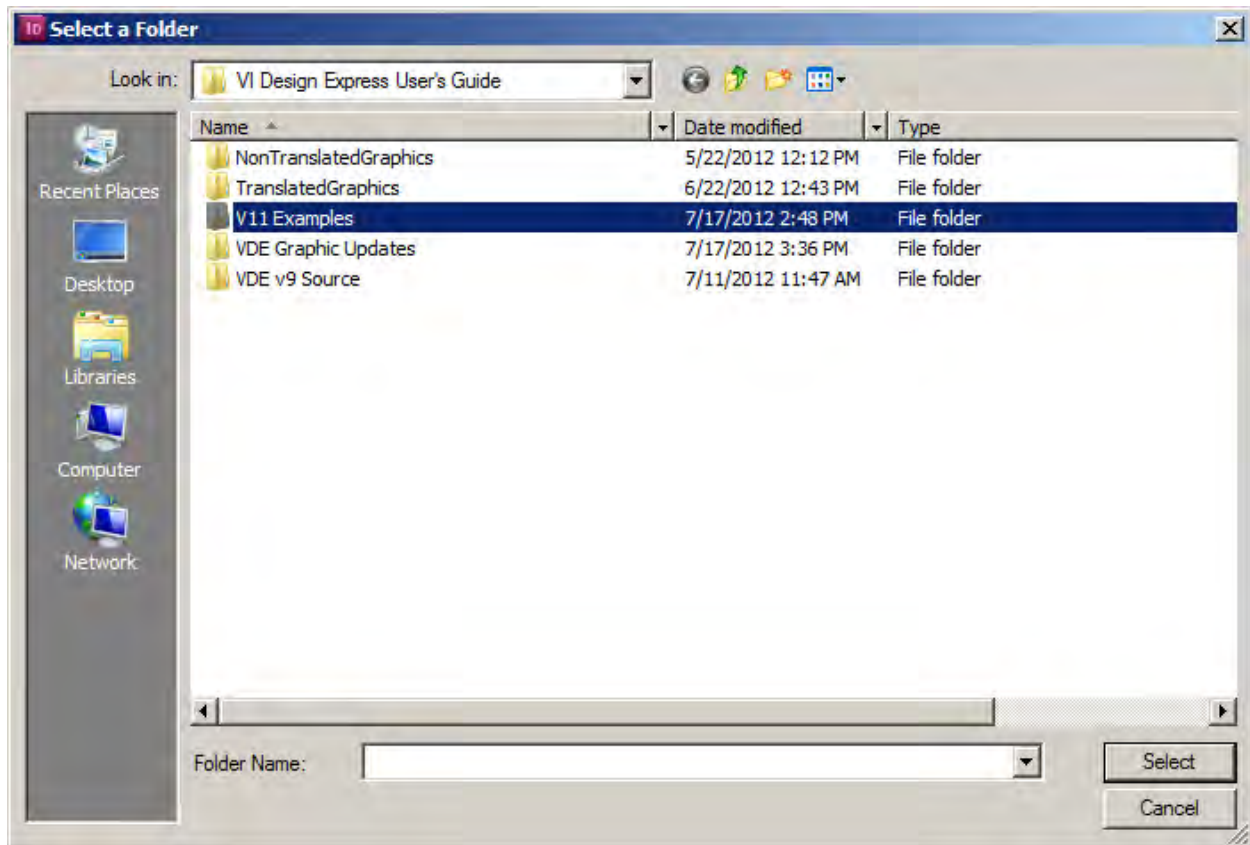
VIPP® and InDesign must know where the assets or VIPP® resources can be located on the computer or network. Assets, or resources for the job, should be placed in a single folder. Do NOT use subfolders, as VDE and VIPP® can only access specific resource types in a single folder. If an Asset Folder is not assigned, VDE will look for the assets in the folder in which the Data file is contained.



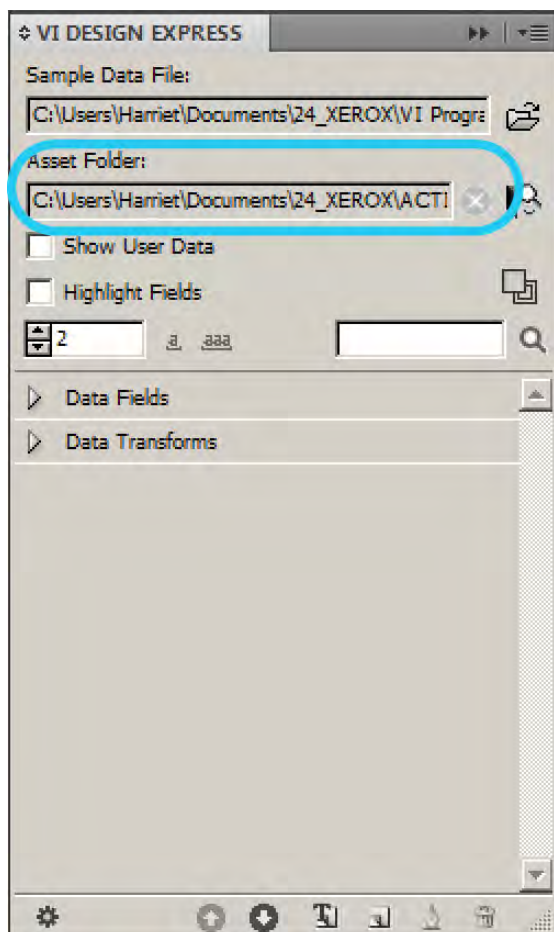
Note: Like the data file, VDE supports the concept of test and production environments, which allows the use of one asset folder during design test and another asset folder during the Export phase for production. Although it is common practice to have a design and a production asset folder in different locations, a single asset folder may be used during both design and production, if desired. When using design and production asset folders, the design asset folder can contain low resolution test files, and the production asset folder can contain the high resolution image files used during final production. The production asset folder is selected during the *Export* phase.

To define the asset folder click the **Choose Asset Folder** button.

Next, browse for and select the folder where the assets for the job can be found.



When the folder is selected, the path to the asset folder is entered into the Asset Folder field of the VDE panel.



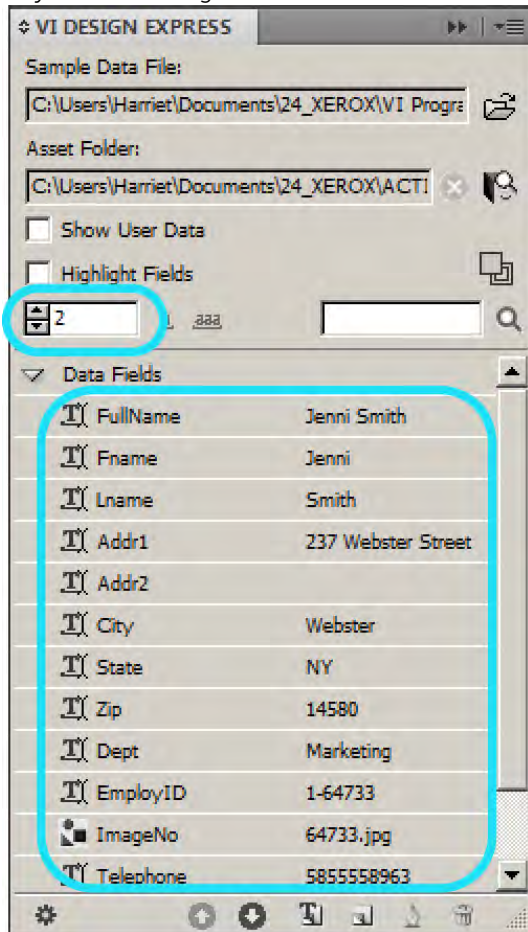
## DEFINING VDE DATA OBJECT TYPES

When the delimited, or XML data file is first loaded into VDE, the Data Object List is populated with the field or XML tag names and data values. Click the small triangle to the left of the data object list to display the tree containing the data objects. Close or open that section of the Data Object List by clicking on this triangle.

Once the Data file has been selected:

- The VIPP® data objects list at the bottom of the VDE panel is initially populated with the fields contained in the data file. Additional data objects are added to this list as the design process continues.
- The record counter, shown below the Highlighted Fields checkbox, displays the current customer record being displayed. Change to another customer record using the up or down arrows, or by typing in the customer record.



As you scroll through the customer records, the values for the fields or tags being displayed will change.



VDE lists the fields on the VDE panel, and displays three pieces of information about each data base field:

- Icon
- Field Name
- Data

#### Icon

An icon indicating the Type of the object is displayed in the first column. Initially, VDE will evaluate the field and assign an icon that best describes the file. For example, if the field contains data with a graphic file extension, it will assign a graphic icon . Otherwise, most fields will be assigned a Text icon . Object types can be changed to any one of the following, based on their intended use.

#### Field Name

##### Text

Arbitrary text.

##### Text File

A UTF-8 or ASCII with character codes less than 0x80 text file. Any proprietary formatting commands or tags will be ignored and printed as text.

##### Graphic File

A graphic element like a jpeg, tiff, eps file, and so on.

**Visibility**

A true/false value that specifies whether or not a layer is visible.

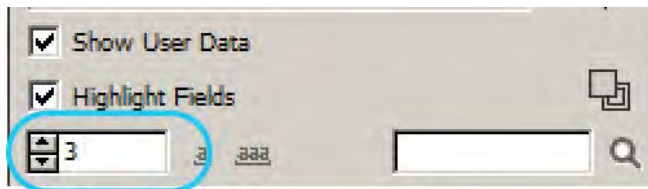
**Color**

A variable color. A color of that name must exist or be created in the Swatch panel during the design, otherwise it will default to White.

The second column displays the field or tag name as displayed in the data file.

**Data**

The third column shows the data contained in that field for the current record displayed in the Record Display box, which is directly under the Highlight Fields check-box. The column may also contain information on conditional settings for subsequently added object; for example, a visibility object may be either On or Off.



In the event that one or more of the fields or tags, are NOT the same type as the assigned default, the field or tag type must be changed.

To change a field or tag type, right-click the field to change, then select **Change Type** on the pop-up menu.

When the Change Type option is highlighted, a sub-menu containing the type options appears. From the sub-menu select the correct type for the field or tag. The icon in the first column will change to represent the chosen type.

When exporting the file to VI format, it is possible to define a data field where the value can be used in defining the media or repeat count during Export and Printing.

Right-click on a text variable data object in the VDE panel. When the Show In option is highlighted, a sub-menu containing show in option appears. From the sub-menu, select the option for the field. If Repeat Count List is selected, the field name will appear in the Repeat Count menu for the Print Settings panel. If any of the Media settings are selected, they will appear in the corresponding Media setting found in the Define Media panel.





# Rules

This chapter contains:

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Rules are the key to controlling a variable data application. A Rule can insert text, the content of a text file, or a graphic into a text or graphic frame. Rules can also control the visibility of a layer or page.

## Rule Term Definitions

### Rule

A Rule consists of one or more entries that will be evaluated.

### Entry

An entry consists of a value that is used by the Rule if that entry is evaluated to be true. The exception to this is the first entry, which only contains a default value that is used if all the other entries are evaluated to be false.

An entry also contains an And/Or evaluation clause and one or more conditions to which the clause will apply.

It is the entries that are evaluated true or false. Entries are evaluated sequentially from top to bottom, starting at the second entry skipping the default entry. If an entry is evaluated as true, the evaluation is stopped and its value used as the result. If none of the entries are evaluated as true, the default value is used.

### Conditions

The conditions define what will be tested. The parts are:

- The two operands are XML tags, database fields, or user-entered text strings that are used for comparison.
- The comparison operator such as *to equal to* or *greater than*.

### Rule Types

These are the Rule types:

- **Text Rules:** A Text rule is used to place a text string into a text box in your document. The string can be placed as the only text in the text box, or can be inserted at the start, middle or end of an existing text string.

Use Example: You may want to offer a different discount value based on membership level. If the Membership level is Gold, you may want to offer a 25 % discount or if the Membership level is Silver you may want to offer only a 10 % discount.

- **Text File Rules:** A Text File rule is used to reference a file containing text into a text box in your document. The contents of the file will be evaluated and placed in the text box.

Use Example: You may want to provide a short paragraph description of an item for sale. You could store these short descriptions in a text file, one for each product, then call each one based on the Product ID or Name.

- **Graphic File Rules:** A Graphic File rule is used to place an image into a Graphic Frame in your document.

Use Example: You may want to print a Real Estate letter and use the correct agent photograph in the title section of the document. You could call out the correct image based on some value in an XML tag, or database field.

- **Style Rules:** A Style rule is used to change or assign various font attributes to the selected text.

Use Example: You may want to offer a different discount value based on membership level. If the Membership level is Gold, you may want to offer a 25 % discount but you may also want to print the customer's name using various text attributes, such as Gold Color, Bold Type Face, and so on. If the Membership level is Silver, you may want to use different font attributes. Refer to [Dynamic character styles](#) for additional information.

- **Visibility Rules:** A Visibility rule is used to turn InDesign Layers *On* or Visible, or *Off* or Non Visible in your document. This has been extended to support the printing of a page. For step-by-step help, refer to [Using Rules to control layer visibility](#).

Use Example: You may have a State Logo and State information that you need to place on the page. These may even be in different languages. You could achieve this by generating a single layer for each state and for each language. Then call in the appropriate layer based on information in the data. A variable option called VPPlayerName, is available from the field drop down in the Rules dialog. Using VPPlayerName allows you to set the Visibility rule once for multiple layers, this avoids the need to set the visibility rule for each layer one at a time. For more information refer to [Using Rules to control layer visibility](#). The use of VPPlayerName is described at the end of that section.

- **PDF Visibility Rules:** Adobe Acrobat and Reader have a capability that allows parts of a PDF document to be made visible or hidden by the user (when viewed or printed) using the visible/hidden toggle button of the *Layers* panel in the tool bar. This Rule enables VDE to create layers in PDF.

Use Example:

- Allow a background form to be present in the PDF but be disabled when the document is printed on pre-printed paper.
- Enable/disable a watermark *COPY* for instance.
- **Color Rules:** A Color rule is used to paint a monochrome image or fill/stroke a frame in a selected color. For text use a Style Rule.

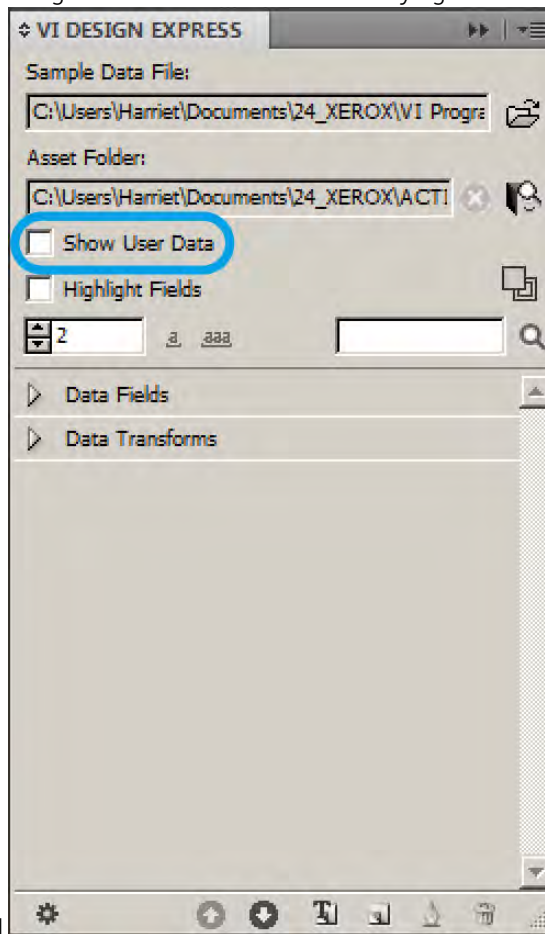
Use Example: You may need to add color to a monochrome image, such as a logo.

- **LMOT Subset Retrieval Rules:** Refer to [Defining an XML data file](#) for descriptions of XML data types. The XML data that is presently supported falls into two categories: Single Occurrence Tags, and Limited Multiple Occurrence Tags (LMOT).

When building rules to evaluate single occurrence XML tags, the same process that is used for delimited data can be used. When building rules to evaluate Limited Multiple Occurrence XML tags, the process although very similar, is evaluated slightly differently and is used to create a subset of values from many possible LMOT values. For more information, refer to [LMOT Subset Retrieval Rule generation](#).

- **Variable layer objects and performance:** Use Text or Graphic rules where possible to decrease the number of variable Layers used on a page. Many different variable layer objects on any one page can negatively affect the performance of VDE, and result in very large file sizes at Export. It is far better to have one variable layer object, even though that variable object may have many different versions, than to have four or five different Variable Layer items on one page that may only have a few versions of each object.
- **Select Show User Data when testing:** When using Visibility Rules and testing your application, you must select **Show User Data** to display the correct working order of the Visibility Rule. Failure to have this option

checked, will result in all layers showing. You can waste several hours trying to identify errors in your Visibility



Rules if this option is not checked.

## Rule Creation

The steps below provide an overview of the steps required to create a Rule of any type.



Note: There is a maximum number of Rules that can be defined in a document. This limit will depend on the length of each rule definition, the number of data file tags or fields and the length of each tag or field name. Xerox recommends that you keep the names of rules short, and that you minimize the number of *conditionals* in each rule.



Tip: Write the conditional logic down on a piece of paper, then follow the logic through to make sure it is correct before creating and applying the Rule. When there are issues with the Rule, or concern that the wrong result is showing up, troubleshoot the Rule by converting it into a Text Rule. Use meaningful text strings as the result of the test. By stepping through each record you can verify what the result of that Rule was for each record.

1. Click the **Create a new rule** button at the bottom of the VDE panel, the Rule builder panel will pop up. To determine which button to use, allow the cursor to hover over any of the buttons on the VDE panel; a tool tip is displayed.

Initially, the panel consists of four fields such as Name, Rule Type, Description, and Default value, and Plus and Minus buttons used to add or delete entries. The two buttons at the bottom of the panel provide the option to save the Rule, Click OK, or to exit without saving, Click Cancel.

2. Enter a **Rule Name**. It is recommended that you use a meaningful name that is easily recognized, as this rule may be reused in several sections of your application. Rule names are restricted to 7-bit ASCII, Characters A-Z, a-z, 0-9, the underscore, period and equal sign. The use of Upper and Lower case characters are recommended to avoid conflicts with reserved words. Rule names should be at least 3 characters in length, however, avoid using names greater than 25 characters in length.

3. Select the **Rule Type** from the Rule Types drop-down list. As changing the Rule type after the Rule is already defined may invalidate the Rule definition, always define the Rule type before adding entries and conditions.
4. Enter an optional **Description**. The description field performs no functions other than to provide the ability to enter some descriptive information about the rule or transform. The maximum number of characters is 50.
5. Enter or choose a **Default value**. The default value is the value used if none of the other entries are evaluated true. The drop-down list contains the tags or fields from the data file that are of the same type as the Rule type. For example, all tags or fields defined as a Text tag or field are listed in the drop down when the Rule type is *Text*, all tags or fields defined as a Graphic File tag or field are listed when the Rule type is *Graphic File*, and so on. When the Rule type is set to *Visibility*, the default value is set to ON.  
A text string can also be entered as the default value. Whenever a string is entered in the Rule panel, a keyboard icon appears next to that field.
6. Once the initial fields are defined in the Rule panel, entries to the Rule can be added as required. Click the **large add entry button** to the right of the Rule builder screen. Using this method, add as many entries as needed to meet the job's requirements. When adding a new entry, the Rule builder adds the boxes that need to be filled out to build the conditions.

The screenshot shows the 'Create Rule' dialog box. The 'Rule Name' field is empty. The 'Rule Type' dropdown is set to 'Text'. The 'Description' field is empty. The 'Default value =' section shows a dropdown with 'FullName' selected and a keyboard icon. The 'Value =' section shows a dropdown with 'when any of the following is true' selected. Below this, there is a condition row with two dropdowns, both showing 'FullName', and a text field containing '[T] is equal to'. At the bottom right are 'OK' and 'Cancel' buttons.

7. Choose an existing **Value** or enter a **text string** to use if the entry is evaluated as true.

8. Select one of these two available options when this Rule is true:

**When any of the following is true**

This is like saying Age is greater than 21 OR Smoking equals no OR blood pressure is low. In this case any one of these conditions being true is considered a pass and the condition is met.

**When all of the following are true**

This is similar to saying My age is greater than 21 AND I do not smoke AND by blood pressure is low. Here, to be true, all the conditions must be met.

The difference is in the use of OR or AND.

9. Select the first value to use in the conditional statement or **Operand 1**. The drop-down list contains a list of all the tags or fields in the data file, select one. Text strings cannot be entered here.

10. Choose either an **alphabetic ([T])** or **numeric ([#]) operator** to use to compare the operands and return a true or false result. The drop-down list contains a list of available logical operators. The selections prefixed by [T] indicate a text comparison, while the selections prefixed with [#] indicate a numeric comparison. The following is a brief description of what these conditions mean:

**[T] is equal to**

This is true if the tag or field being tested contains the string entered. So, if the string is *ABcd*, the tag or field being tested must equal *ABcd*. It is case sensitive and *Abcd* will result in not being true. *ABcde* will also not be true as it contains additional characters.

**[T] is equal to (ignore case)**

This is true if the tag or field being tested contains the string entered, case is ignored. So, if the string is *ABcd*, the tag or field being tested must equal some case combination that equals *ABcd*. As case does not matter, *Abcd* or *abCD* will result in this condition being true. But *ABcde* will not be true, as it contains additional characters.

**[T] is not equal to**

This is true if the tag or field being tested does not equal the string entered. This is often used to test tags or fields that contain *Y* or *N* to indicate Yes or No, but can also be used to test more complex strings. This test is case sensitive.

**[T] is not equal to (ignore case)**

This is true if the tag or field being tested does not equal the string entered. This is often used to test tags or fields that contain *Y* or *N* to indicate Yes or No, but can also be used to test more complex strings. This test is not case sensitive.

**[T] contains**

This test is used to test for the existence of a series of consecutive characters in a string, tag or field. For example, if the tag or field contains the text Total Pay, this test is true when testing for *Total* or *al pa*, and so on.

**[T] does not contain**

This is the opposite of the above. Test the string to make sure it does not contain the character string specified.

**[T] begins with**

Tests to see if the beginning n number of characters in the string being tested match the string or n number of characters provided.

**[T] ends with**

Tests to see if the ending n number of characters in the string being tested match the ending string or n number of characters) provided.

**[T] file exists**

Tests to determine if a file exists. If the file exists this test is true. Refer to [Find a file with an unknown file extension](#).



**[#] is equal to**

Tests a numeric value and is true if the value being tested is equal to the value provided.

**[#] is not equal to**

Is the opposite of the above, the value being tested must not be equal to the value provided.

**[#] is greater than**

Is true when the value being tested is greater than the value being provided.

**[#] is greater than or equal to**

Is true when the value being tested is either equal to or greater than the value provided.

**[#] is less than**

Is true when the value tested is less than the value provided.

**[#] is less than or equal to**

Is true when the value being tested is either less or equal to the value provided.



Note: If either operand contains non-numeric characters, when building numeric comparisons, unpredictable results may occur.

11. Select or enter the value to be used as a comparison value **Operand 2**. The keyboard icon will appear next to the entry when a text string is entered.
12. Use the small plus button to add as many conditions for an entry as required.
13. Use the large plus button to add more entries as required.
14. To save the Rule click **OK**.
15. Once the Rule is defined, it will appear as a selectable object in the VDE data object list.

## LMOT SUBSET RETRIEVAL RULE GENERATION

An LMOT Subset Retrieval Rule is a standard VDE Rule used to evaluate an LMOT XML tag against another LMOT tag within the same LMOT group only, and to retrieve a subset of values for the evaluated tag.

The example below is the second customer data record excerpted from the XML data file found in [Loading the XML data file](#).

```
<RECORD>
...
<PHONE type='fax' location='home'>
  <AREACODE>310</AREACODE>
  <NUMBER>555-2200</NUMBER>
</PHONE>
<PHONE type='landline' location='work'>
  <AREACODE>818</AREACODE>
  <NUMBER>555-0022</NUMBER>
</PHONE>
<PHONE type='cell' location='mobile'>
  <AREACODE>713</AREACODE>
  <NUMBER>555-2222</NUMBER>
</PHONE>
...
</RECORD>
```


This record has an LMOT group based on the <PHONE> tag. There are three occurrences of the <PHONE> tag in this

LMOT group. Each occurrence contains additional information about the phone, including type, location, area code and number. So, the tag <PHONE><AREACODE> has three different values depending on the occurrence within the selected LMOT group.

If you select an LMOT tag and place it on your page, you will get all values in the LMOT group, for that tag. For example, if you created a text frame, then selected the AREACODE tag, added the - character, then added the NUMBER tag, the text frame would look like this when printed:

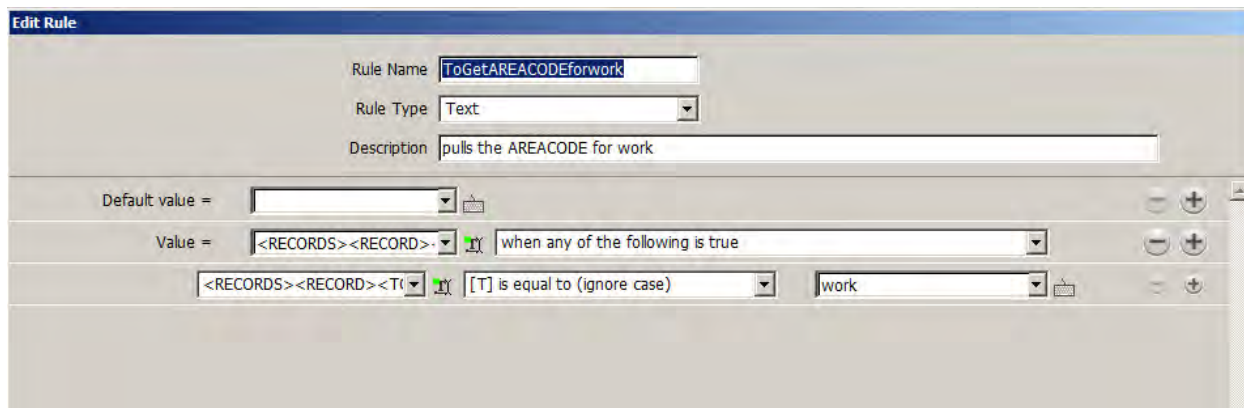
310-555-2200  
818-555-0022  
713-555-2222

In order to select a subset of values to place on the page, you need to create a rule that will evaluate the LMOT group to find the occurrences you are looking for.

 Note: When using multiple tags such as <AREACODE> and <NUMBER>, you can create a rule for each value. Another alternative is to generate a Data Transform that could be used to concatenate tags to create an LMOT object to reference in a rule.

The steps for generating the rule or data transform are the same as previously discussed.

The following graphic shows a rule used to select the word AREACODE, and deliver it to the VDE panel as a single occurrence value, based on the XML data example.



By creating this rule for the area code, and another for the phone number, you have all the information you need in the data panel to place all the area codes and phone numbers with location= work into your document as a subset of the <PHONE> LMOT group.

## Rule Modification or Duplication

Use the Modify a Rule button to build a new conditional Rule for the job. When an existing Rule is highlighted and the button is selected the Add or Modify Rule panel appears. The panel will contain all of the tags or fields used to initially define the Rule.

When the existing Rule is open in the Add or Modify a Rule panel, use that panel to:

### **Modify an existing Rule**

By making changes to the on-screen entries and pressing **OK**.

### **Duplicate the Rule**

By entering a new name in the Rule Name field, and pressing **OK**.

## Rule Testing

To test the completed Rule, scroll through the data records by using the up or down arrows in the record indicator window. When the *Display user data in Job* check-box is enabled, the information in the InDesign workspace will change based on the result of the Rule and the contents of the data object to which it is assigned.

## Rule Deletion

To delete a Rule, you must use the Delete Rule option. On the VDE panel, highlight the **Rule** to delete. Right-click the mouse to display a menu. Select the **Delete Rule** option to delete this Rule. Or click the **delete button**. The delete option will delete any Rule type.



**Caution:** Using the Delete Rule option will delete the Rule, and all references to the Rule, from the document. When the Rule is used in several locations or layers, they will all be affected.

## Un-associate a visibility object from a layer

To un-associate a visibility object from a layer, the association of the object to a particular layer is changed.

1. When a visibility object is right-clicked, an additional menu option, Detach Visibility Object from Layer is available. All layers associated with that object are listed next to that entry.
2. Select the layer from which the visibility object is to be detached.
3. If the visibility object is a Rule, all associated layers can also be un-associated by deleting the Rule.



Note: This is also a useful way to see the layers to which a Rule is associated.

## Find a file with an unknown file extension

The rule evaluation, file exists, is used to test for an existing file. If the file is found, the condition is evaluated as true. If the file cannot be found, the condition is false.

A use case for this evaluation type is one in which a tag or field may contain an image name, but no extension. In this case, EmployID contains a list of employee identification numbers, and over the years, employee photographs with the corresponding numbers; all of which have been saved with a variety of file extensions. Create your application and call in a fully qualified resource name with an extension by using a combination of Data Transforms one per extension type and a single Rule using the file exist evaluation.

For example, the asset folder has the following images:

- 64733.eps
- 65873.jpg
- 64221.tif
- 54987.pdf

The data file has a tag or field called EmployID the value in that tag or field for record one is 64733, record two is 65873, record three is 64221 and record four has the value 54987.

Because there are four extension types, you need to create four Data Transforms one for each extension type. Each data transform will concatenate the value of the EmployID tag or field with one of the four file extensions.

The screenshot shows the 'Create Data Transform' dialog box. It has a title bar 'Create Data Transform'. Inside, there are three main sections: 'Data Transform Name' with a text box containing 'JPG\_Extension', 'Data Transform Type' with a dropdown menu set to 'Graphic File', and 'Description' with a text box containing 'Find the jpg extension'. Below these are three rows of 'Start String' and 'Action' settings. The first row has 'EmployID' as the Start String and 'No Action' as the Action. The second row has '.jpg' as the Start String and 'No Action' as the Action. The third row has 'No Action' as the Start String and 'No Action' as the Action.

This transform will concatenate the value of the EmployID tag or field with the .jpg extension. Create three other Data transforms, one for .eps, one for .tif, and one for .pdf.

Next, create the rule that will use the file exists evaluation.

Rule Name: PictureExists

Rule Type: Graphic File

Description: Select image with correct file extension

Default value = None.jpg

Value = JPG\_Extension when any of the following is true

JPG\_Extension [T] file exists

Value = EPS\_Extension when any of the following is true

EPS\_Extension [T] is equal to FirstName

Value = TIF\_Extension when any of the following is true

TIF\_Extension [T] is equal to FirstName

Value = PDF\_Extension when any of the following is true

PDF\_Extension [T] is equal to FirstName

The rule defines the following actions:

- If none of the entries or the value of the field Picture, plus a file extension are evaluated to be true, the image None.jpg file is to be used.
- Otherwise, if the value in the first transform, JPG\_Extension exists in the asset folder, then that file is to be used.
- If the value in the first transform does not exist, drop down to the next test. The next test will test for the value in the 2nd transform, which if found, will be used. If not found, the next test will be performed, and so on.

As with all rules, the evaluation order is processed top to bottom. As soon as one rule entry is found to be true, the rule ends further processing. For this reason, care should be taken in the order you test, as the rule will return the value for the first hit that matches.

In the use case above the file exists was used to test if graphic file formats exist. This same logic could be applied to text files using the Text File Rule option.

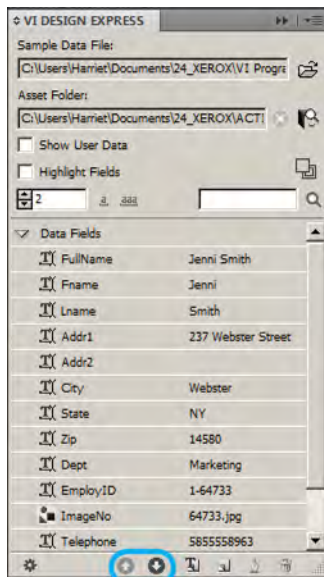


Note: When using the file exists evaluation, the second operand is not required and is not available in the GUI.



## Importing and Exporting Rules and Transforms

A rule or transform can be exported to a user defined file folder on your system, and that rule or transform can be imported into another VDE application. This function is enabled by clicking on either the **Export** or **Import** Up or Down arrow as shown below.



### Unmatched data in imported rule or transform

While VDE will make every effort to report if the imported rule or transform contains unmatched data fields, tags, colors, and so on, the user is expected to understand the consequences of using generic rules and transforms, and will be expected to edit the rule or transform in the new application to make the rule or transform applicable to the new application.

### Variable Color or Styles

This is not recommended for Variable Color or Styles, as VDE will be unable to validate if a variable color or style exists. If using variable color or styles, it is recommended that you test and validate your application before going into production.

### Feature support

This feature is not supported in Transactional Data Base Mode.

## IMPORTING A NEW DATA FILE AND ITS EFFECT ON RULES AND TRANSFORMS

When importing a new data file that has a different data structure, a dialog is displayed asking if you want to keep the existing Rules and Transforms. The dialog is displayed because the new data structure may invalidate some of the existing rules or data transforms for example tag or field name changes. You have the option to delete or make changes to the rules or transforms, or to fix tag or field names, and so on. Rules and Transforms that have mismatched tag or field names will be displayed in red. You need to delete or correct those rules or transforms before you will be allowed to export the document.



# VDE Design Elements

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The elements that make up the design consist of both static (unchanging) and variable information.

Static information is inserted into the document using the InDesign tool set. Variable data is inserted into the document by selecting the tags or data fields from the Data Object List. The Data Object List can also include Rules (conditions) and data transforms that can be inserted into the document.

VDE variables include:

- Text strings
- Text files
- Variable text around an object
- Suppress Blank Variable Text Lines
- Variable Tables
- Distorted text
- Tabs
- Dynamic Character Styles
- Graphics
- Barcodes
- Text Pattern Swatches
- Variable Color
- Variable Layers

## Text

In a variable document, text is broken down into static and variable text. These are labels used to describe how an area of text is affected by variable data driving the application.

### STATIC TEXT

Static text is an area of text that contains no text variables. It is not data driven and is not affected by data in a data base field or XML tag. It is entered into the InDesign document using the standard InDesign tools and controls for adding text objects to the page. This includes all supported InDesign text attributes including special effects such as drop shadows, etc. This is different from variable text where only VIPP® supported text attributes are allowed.



Note: Including a single text variable inside of a static string or paragraph of text, will change that static text into variable text and, as such, restricts that variable to text attributes that VI Compose supports, such as font size, bold, italic, and so on.

### VARIABLE TEXT

Variable text is content that varies according to information contained in the data files and Rules associated with the design. As variable text is governed by VIPP®, only VIPP® supported text attributes are allowed.

To insert variable text into an InDesign document:

- Either click the **Text Box tool** to draw a new text box area, or click inside an existing text box, placing the cursor at the position where the variable text is entered.
- Highlight the **object** (of data type Text) to insert.
- Insert the selected object at the current cursor position. To do so, either double-click the **object** or click the **Insert Data Object** button. The object name will display in the text area. When objects are entered, either the field name or the field content is displayed in the workspace, depending upon the status of the Show User Data check box.
- If required, enter text before or after the inserted object, or insert another text object.

Refer to **Buttons, check boxes and icons** for information on how to show the actual text string instead of the field name. Selecting or deselecting the **Show User Data** checkbox will allow toggling between a view of the actual contents of the selected data fields or tags for the currently selected record, or the field name. Scroll through the data and see the content change by clicking the **up** or **down** arrow in the Current Record window. Additionally, highlights on the variable data can be toggled on and off by clicking the **Highlight Fields** check-box.

### VARIABLE TEXT FILES

To insert a variable text file into an InDesign document:

- Either click the **Text Box tool** to draw a new text box area, or click inside an existing text box, placing the cursor at the position where the variable text is entered.
- Highlight the **object** (of data type Text File) to insert.
- Insert the selected object at the current cursor position. To do so, either double-click the **object** or click the **Insert Data Object** button. The object name will display in the text area.

If the Show User Data is checked, the contents of the text file will appear, otherwise the file name of the text file will appear. As the records change, the text or file name will change assuming the referenced text file changes with each record. This can also be done conditionally using the Rule templates, refer to [Rules](#).

## TEXT FITTING AND WRAPPING OPTIONS

The InDesign Wrap Around Bounding Box text wrapping option is supported. Text wrapping can be applied to any shaped object containing variable data under the following conditions:

- Rectangular objects can wrap around other rectangular objects.
- Non-rectangular objects cannot wrap around objects of any shape.
- Non-rectangular objects cannot be wrapped by other non-rectangular objects.

Using variable text in an application creates a need to ensure that the inserted text fits within the text frame since the number of characters within the variable will vary. VDE text fitting options allow you to choose how the appearance of the finished text will be adjusted to fit within a given shape. Original font sizes are preserved in the application, however, the way they look in the final document will depend upon the selections made on the VDE Text Fitting Options panel.

Fit and Wrap text options are set in the VDE Text Fitting Options panel. The way text fits and wraps in an application depends upon the combination of the boxes that are checked on the panel.

### VDE text fitting and wrapping options

The VDE text fitting and wrapping options described here are not the same as the In-Design Text Wrap feature. To access the InDesign Text Wrap panel, select the **text frame** in the document, then select **Window > Text Wrap**. The InDesign options are listed here:

No text wrap	supported
Wrap around bounding box	supported
Wrap around object shape	not supported
Jump object	not supported
Jump to next column	not supported
The <b>invert box</b> next to the icons	not supported

### Document display differences between InDesign and VIPP®

Due to differences in wrapping algorithms between Adobe InDesign and VIPP®, a document using the Text Wrapping Around an Object feature may display differently in Adobe InDesign than the VIPP® job generated from such a document when displayed or printed. Validate the rendering of the VIPP® job by viewing the VI Project Container (VPC) in FreeFlow VI Explorer or in the VDE by selecting **Export > VI Project Container (VPC) > Proof VI Project Container after export**, to ensure that the Text Wrapping meets your expectations.

### Fitting and wrapping options and text frame size

When placing a text string in a text frame, make sure that the text frame size is suitable for the longest expected text string. You may choose to wrap the text, or use any of the VDE Text fitting and wrapping options to better control strings. For example, you can fit the text string within the column width without wrapping, or select a character that can be wrapped on if the text string exceeds the width of the text frame.

When the text placed into a text box is too long to fit into the vertical dimension of the box, or words are too long to fit into the width of the box, InDesign will move the overset text into an automatically linked text frame. To avoid placing variable text in unexpected areas of the design, adjust the text box to handle the longest expected data. Always run a test on the application to ensure that variable data fits into the design.

### Automatic hyphens

VI Compose has no automatic hyphenation capability. In order to adjust the text to accommodate variable information, VDE options override the InDesign text options. Since, in most cases, the VDE override does not allow InDesign automatic hyphenation, VI Compose may render the entire word on one line, causing it to extend past the right edge of the bounding box. To ensure that what is displayed on the InDesign/VDE screen is more closely approximated in the printed version, turn off the InDesign automatic hyphenation feature. (**Type > Paragraph > Hyphenate**).

All examples in this section assume that the InDesign automatic hyphenation option is NOT selected.

### Rectangular text boxes only

Text fitting of frames containing variable text can only be applied to rectangular text boxes, it cannot be applied to text on a path, text within a polygon, and so on.

Text fitting of frames containing variable text will not work in conjunction with the InDesign Text Wrap feature, refer to [Variable Text around an Object](#) for more information. A frame containing fitted variable text cannot overlap a frame that has Text Wrap applied. Although the text will be fitted properly in the InDesign document, the exported VPC will not print as expected.

### Suppressing variable blank lines

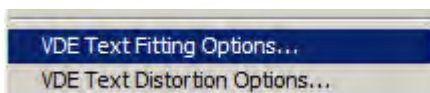
The option to [Suppress Blank Variable Text lines](#) is described later in this document. It can be used to suppress the blank variable lines, common in a name and address block, or other text frames.

### Text Fitting Options

Text fitting options adjust the text within the text box to fit the width of the text box. The text can be placed on a line by adjusting the spacing, or by stretching the text across the width of the text box.

To apply Text Fitting to a text string:

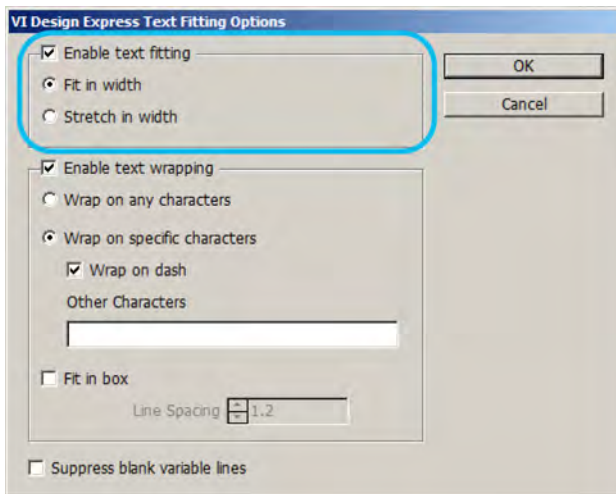
1. Place the text cursor inside the InDesign text frame.
2. Right-Click to display the options available for this frame.
3. Select the VDE Text Fitting Options.



4. Check Enable text fitting.

5. Select either:

- **Fit in width**
- **Stretch in width**

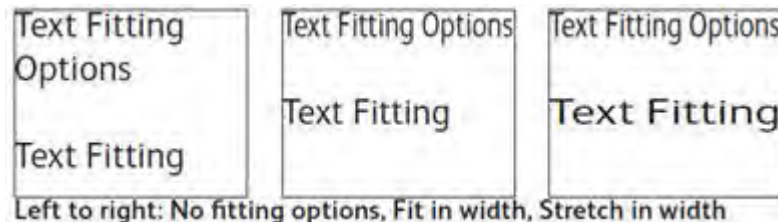


### Fit in width

When using the Fit in width option, if a line of text is too long to fit in the text frame, the width of the characters is decreased to allow the text to fit on one line. The point size stays the same; only the width of each character changes. If the text is long enough to fit in the text frame, applying this option has no effect.

### Stretch in width

The Stretch in width option is similar to Fit in width, except that it will also increase the character width to make the text fill the width of the frame.



### Fit in width and Stretch in width

- There can be multiple lines in the text frame. Each line is fitted individually to the frame. A CR, LF (Enter key) will end the current line.
- A line can contain multiple fonts and different font sizes. The fonts and font sizes will be preserved. The only thing that will change is the relative width of the characters (e.g., all character widths might be decreased to 70% or increased to 120% to fit the line of text).
- For Stretch in width, text displayed in InDesign will never have a horizontal scale value greater than 1000%. This is a built-in InDesign limitation. In the exported job, text frames that contain variable data will have a horizontal scale greater than 1000% if necessary, but text inside text frames with no variable data will not.
- For Stretch in width and Fit in width, any line of text that contains a tab character will be displayed as unfitted text in InDesign. In the exported job, text frames that contain variable data will be fitted as specified, but text

inside text frames with no variable data will not be. Users are advised not to include tab characters in text that is to be fitted.

- For Stretch in width and Fit in width, in any line of text that ends with one or more space characters, the space characters will be ignored when the fitted text is displayed in InDesign. In the exported job, text frames that contain variable data will include the trailing spaces, but text inside text frames with no variable data will not be. Users are advised not to include trailing spaces in text that is to be fitted.
- For Stretch in width and Fit in width, any line of text that is set to full justify will be displayed as unfitted text in InDesign. In the exported job, text frames that contain variable data will be fitted as specified, but text inside text frames with no variable data will not be. Users are advised not to include set the alignment to full justify text that is to be fitted.
- If the horizontal scale of text has been manually set to something other than 100% before enabling the Stretch in width or Fit in width text-fitting option, and the text fitting option is disabled, the horizontal scale will revert to 100%.
- For the Stretch in width option, the maximum a character width can be stretched in InDesign is 1000%, that is 10 times the normal width. This is an InDesign limitation that cannot be changed. VIPP® has no such restriction, so a character could be displayed wider in the resulting VIPP® document than it is in the InDesign document.
- If a tab character is present in a line subjected to either the Fit in width or Stretch in width option, that line will be ignored in InDesign, but not in VIPP® Pro. (That is because of the way InDesign handles the tab character, which is more like a tab stop on a typewriter, so it does not know how to define the width of the tab character. VIPP®, on the other hand, treats a tab more or less like a space character for the purposes of text fitting.)

### Specialty Imaging and Stretch in width

For GlossMark Text and Correlation Mark Text it is recommended that you apply the text fitting option Stretch in width. This will maintain the text effect at the current text frame width. While the visual appearance on the screen may look stretched, when printed the effect will print correctly. Do not use Fit in width as this will distort the effect. If you do not apply the Stretch in width option, the length of the GlossMark Text or Correlation Mark Text effect will grow and shrink based on the number of characters in the string being printed.

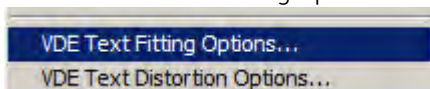
Do not apply any Text Fitting options to Micro Text, Fluorescent, or Infra Red Specialty Imaging effects.

### Text Wrapping Options

Text wrapping options adjust the text within the text box to fit the width of the text box. The text can be placed on a line by adjusting the spacing, or by stretching the text across the width of the text box.

To apply text wrapping to a text string:

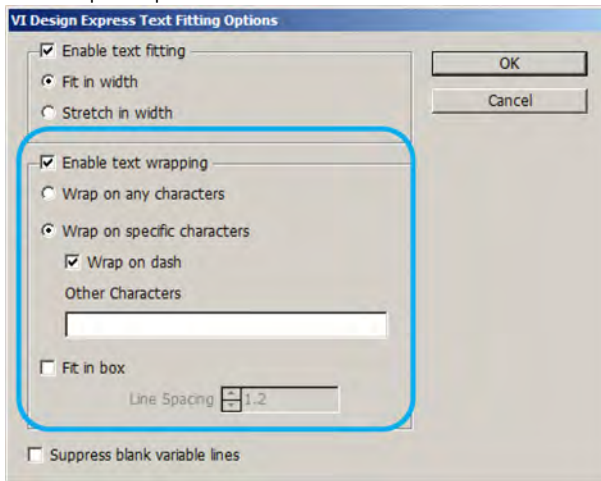
1. Place the text cursor inside the InDesign text frame.
2. Right-Click to display the options available for this frame.
3. Select the VDE Text Fitting Options.



4. Check Enable text wrapping.




5. Select either:
  - Wrap on any characters
  - Wrap on specific characters



6. Fit in box can be applied with either wrapping option.

VDE text wrapping options adjust the text to wrap to more than one line as required, allowing the text to flow from the top to the bottom of the text box. The two basic options are Wrap on any characters or Wrap on specific characters.

When Text Wrapping is enabled, what gets displayed in InDesign is an approximation of what gets displayed in VIPP®, and there is no guarantee that the lines will wrap on exactly the same words.

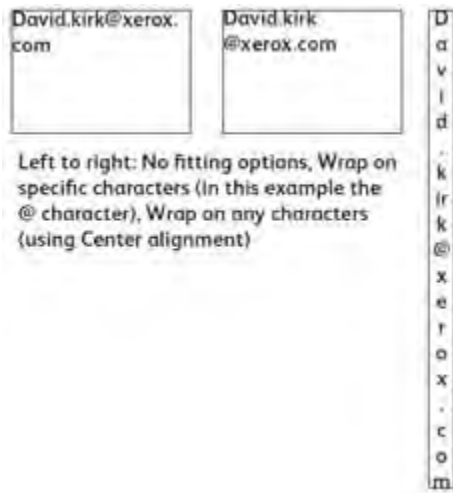
 **Note:** After applying one of the text wrap-on-character options, changing the font or font size may result in an incorrect display in InDesign although the exported VPC should still render properly. Disabling the options, changing the font properties, and then re-enabling the text wrapping options, will prevent InDesign from displaying the document correctly.

### Wrap on... characters

Use the Wrap on any characters or, Wrap on specific characters options to fine tune text wrapping.

If the text in the frame exceeds the width of the frame, it will wrap before the specified character. This can be useful for email addresses that may exceed the column width. The All Character option can be used to print a text string vertically down a page, providing the text frame width is set correctly.

When using Wrap on any characters, you may want to narrow the text frame to a single character width and apply center alignment. Depending on the font size, the text may not appear on the InDesign Screen, but will print as desired. It is recommended that you Export the file, using the VDE PDF Export option, then view the PDF file to proof this effect and adjust as necessary.



### Wrap on dash

Choose **Wrap on dash** to allow the text within an application to wrap at hard hyphens.

### Other characters

Choose **Other characters** to enter user-specified characters upon which the text within an application will wrap.

### Fit in box

Choose **Fit in box** to adjust the line spacing to fit from the top to the bottom of the text box. If a sufficiently large line spacing value has been chosen, the font size will be decreased to fit the text in the box, and the character width will increase or decrease as necessary. In general, the greater the line spacing value, the smaller the font size will be. As with Fit in width and Stretch in width, the text can consist of multiple fonts and font sizes.

## Combined Text Fitting and Text Wrapping Options

The text within the design can include text boxes that use a combination of text fitting and text wrapping options. The combined functions include:

### Fit in width and Wrap on any characters

This combination will wrap the text on any undefined character and fit it to the text box width if it is too long to fit. Roman or Latin fonts will be aligned left and have a ragged right margin.

### Fit in width and Wrap on specific characters

This combination will wrap the text only on hard hyphens or user-defined characters, and fit the text to the text box width if it is too long to fit. Roman or Latin fonts will be aligned left and have a ragged right margin.

### Stretch in width and Wrap on any characters

This combination will fill the entire width of the frame and wrap the text on any undefined character. Line spacing will be adjusted to fit the text box width by shrinking a text string that is too long to fit the width, or stretching it if it is too short to fit the width. Roman or Latin fonts will be justified and have an even right margin.

### Stretch in width and Wrap on specific characters

This combination will fill the entire width of the frame and wrap the text only on spaces, hard hyphens or user-defined characters. Line spacing will be adjusted to fit the text box width by shrinking text that is too long to fit the width, or stretching it if it is too short to fit the width. Roman or Latin fonts will be justified and have an even right margin.

The Fit in box option can be applied with any of the combined fitting and wrapping options.

### Changing font or font size

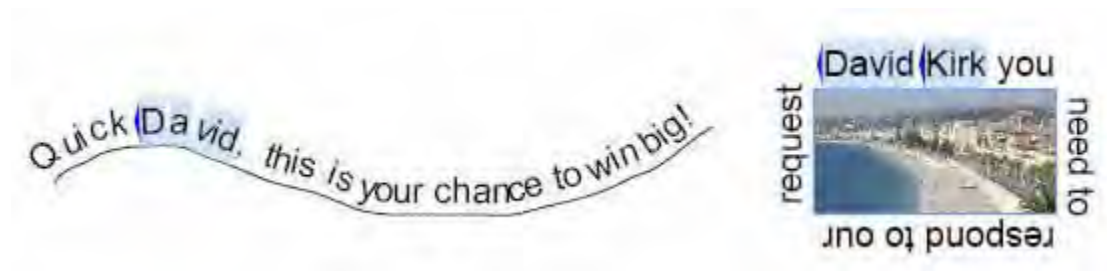
After doing a Fit in width with wrap, or Stretch in width with wrap, changing the font or font size may result in an incorrect display in InDesign although the exported VPC should still render properly. Disabling the text wrapping options, changing the font properties, and then re-enabling the text wrapping options, will prevent InDesign from displaying the document incorrectly.

### Line spacing values

For Fit in width with wrap, or Stretch in width with wrap, with the Fit in box chosen, if the line spacing value is large enough that it causes the baseline of last line of text to be on the bottom edge of the text frame, so that the descenders appear below the frame, InDesign will not display the text stretching or fitting, only the wrapping. The exported VPC will still render the text correctly.

## VARIABLE TEXT ON A PATH

Text along a path is a standard feature in InDesign, it allows you to place a string of text along a previously defined path. The VDE plug-in allows you to include variable text in that text string, allowing you to insert tags or fields from the data or XML file, or a text based object from the Data Object list.

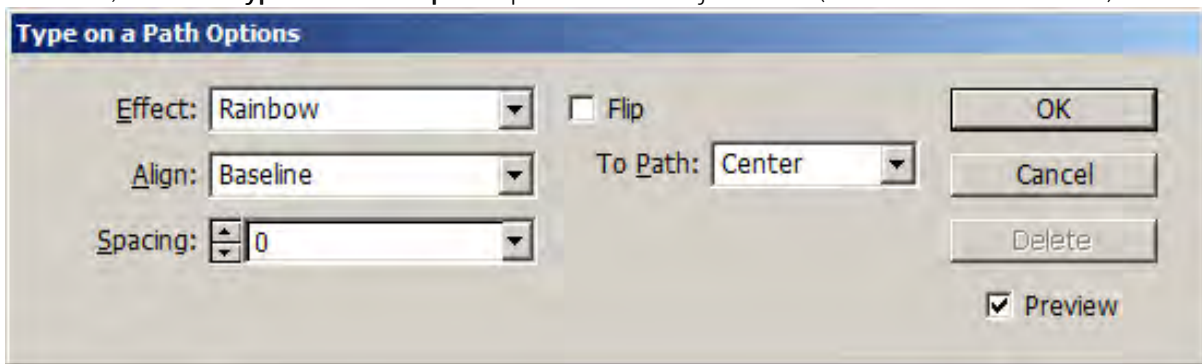


The two images above show examples of text on a path using an open (on left) and a closed (on right) path. The highlighted fields represent variable tags or fields from the variable XML or data file. In the examples above, for each new record, a different name would be inserted, based on the values in the data file.

### Using Variable Text on a Path

1. First define the path or select an object already on the page that has a path defined. You can make the path visible by assigning a color and line thickness, refer to limitations section below, or leave the line width setting at 0 to use an invisible path.
2. Select the **Type on a Path Tool** from the Tools panel.
3. Define text attributes only those text attributes supported in VIPP® are supported - font, color, size.
4. Click the **path**.
5. Start to type the string. To add a variable tag or field, move the cursor to the position you want to insert the variable and then double click the **tag**, **data field** or **object** in the VDE Data Object List.

6. If needed, select the **Type on a Path Options** panel to make adjustments. (Refer to [Limitations](#) below).



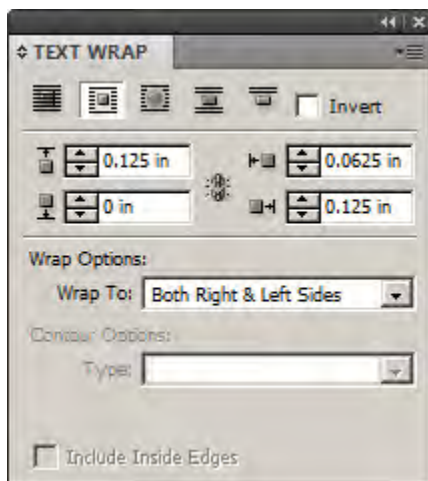
### Limitations

- Only font attributes supported by VIPP® should be used, these are:
  - Font size and width -Font color
  - Normal, Bold, Italic and Bold Italic type face as supported by the font
  - Left, Right and Center alignment
- If making the path visible, you must select a solid line, with a thickness between 1 and 9. A value of 0 will make the path invisible.
- Only Align, To Path and the Flip options are supported in the Type on a Path Options panel. If you select the Effect or Spacing options, they may display in the InDesign application on screen, but they will not be honored in the VIPP® application.

### VARIABLE TEXT AROUND AN OBJECT

InDesign text wrapping is supported using static and/or variable text frames. Any graphics where text wrapping attributes are applied can also be static or variable.

To set variable text to flow around an object, select the **object** and apply the **Text Wrap** option as shown below.



Text before wrapping option is applied:



Jenni, the FreeFlow VI Design Express lets you quickly design variable applications driven by delimited data. The VI Design Express uses the power of the Variable Intelligent Production Printware language (VIPP) to drive production printers quickly and efficiently. The advantages of this workflow are many. There is no pre-composition step, the VI Design Express (a plug-in to Adobe InDesign) exports to a VI Project Container file. This file contains all the job resources and the data file and all the composition is done at the printer at run time. This avoids time consuming pre-composition step. This also means that you do not need to chunk your data. It does not matter if you are printing 10 records or 100,000 records, the VI Design Express will take just minutes to create the VI Projects Container file. You can then submit the VI Project container file to your target production printer saving hours in wasted pre-composing time. To find out more talk to your Xerox analyst.

Text after text wrapping option is applied:



Jenni, the FreeFlow VI Design Express lets you quickly design variable applications driven by delimited data. The VI Design Express uses the power of the Variable Intelligent Production Printware language (VIPP) to drive production printers quickly and efficiently. The advantages of this workflow are many. There is no pre-composition step, the VI Design Express (a plug-in to Adobe InDesign) exports to a VI Project Container file. This file contains all the job resources and the data file and all the composition is done at the printer at run time. This avoids time consuming pre-composition step. This also means that you do not need to chunk your data. It does not matter if you are printing 10 records or 100,000 records, the VI Design Express will take just minutes to create the VI Projects Container file. You can then submit the VI Project container file to your target production printer saving hours in wasted pre-composing time. To find out more talk to your Xerox analyst.

## Supported options

Only the Both Right and Left Side option is currently supported.

## Supported text attributes

Only basic text attributes are supported for variable text around an object. Basic text attributes are:

- Font selection
- Font size and width
- Font color
- Normal, Bold, Italic, and Bold Italic type face as supported by the font selected
- Left, right or center alignment.

**Variable text with in line graphics not supported**

Variable text with an in line graphic. A graphic placed directly into the text frame, and not placed inside a graphic frame is unsupported by VDE. Use the Variable Text Around an Object option described above.

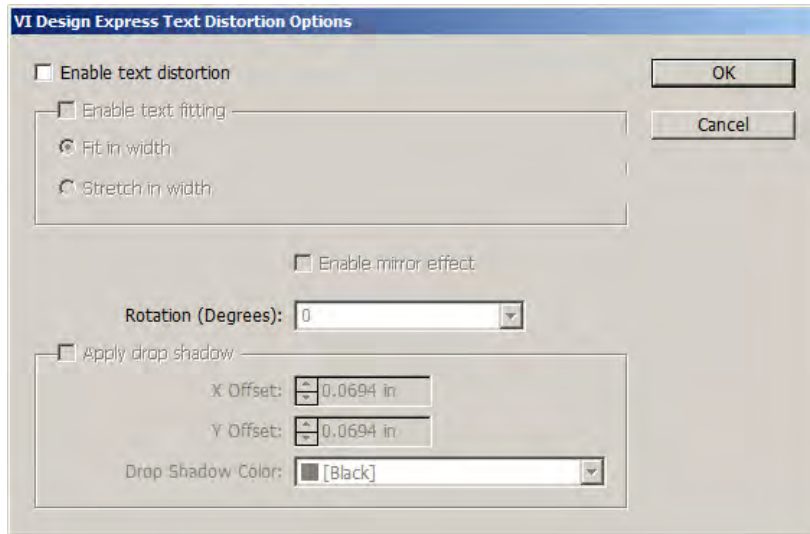
**DISTORTED TEXT**

The VDE Text Distortion Options dialog allows you to apply various effects to a string of text such as a drop shadow or distortion. This can be further enhanced by adjusting any of the four points of the text frame using the InDesign Direct Selection tool (White Arrow) to distort the text frame, allowing you to create the illusion of perspective to a string of text. When the text string is printed, the character size will automatically be adjusted to fit within the allowable frame height.



To apply VDE Text Distortion Options, place the text cursor in the target text frame and right-click. This will display a context menu that includes the selection VI Design Express Text Distortion Options.

Click this selection to display the VDE Text Distortion Options dialog.



To enable Text Distortion, check the Enable text distortion check-box. Then apply options as required. At least one option must be selected to have any effect.

The available options are:

- Enable text fitting
- Enable mirror effect
- Rotation
- Apply drop shadow

### Enable text fitting

#### Fit in width

When using the Fit in width option, if a line of text is too long to fit in the text frame, the width of the characters are decreased to allow the text to fit on one line. If the text already fits in the text frame this option has no effect.

#### Stretch in width

The Stretch in width option is similar to Fit in width, with the exception it has the added functionality to increase character width to make the text fill the width of the frame.

### Enable mirror effect

If this option is checked, the text will be mirrored.

### Rotation

Allows you to rotate the text 0 (default), 90, 180 or 270 degrees

### Apply drop shadow

Allows you to add a drop shadow effect to the text string. To apply the drop shadow you need to define the horizontal (X) and vertical (Y) offsets can be negative and select the **drop shadow color** from the Drop Shadow Color drop-down list. This list will display all supported color selections that are part of the color swatch panel.

Click **OK** to apply the selected options.

## Supported Text Attributes

The supported text attributes are:

- Single or multiple font sizes, font faces, or font family.
- Font fill only.
- Single color selection for the entire string.

All other font attributes are unsupported.

## Distorted text display

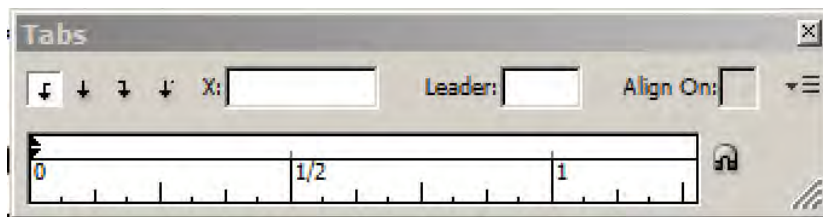
The VDE GUI cannot display the actual text distortion on the screen. To view the text distortion, proof the application.

## Features not supported

Specialty Imaging fonts and colors, and Xerox Specialty Inks options are not supported.

## TABS

To use the Tab key on the keyboard, the tab settings must first be defined using the InDesign Tab settings menu. Select **Type > Tabs** to produce the tab settings panel.

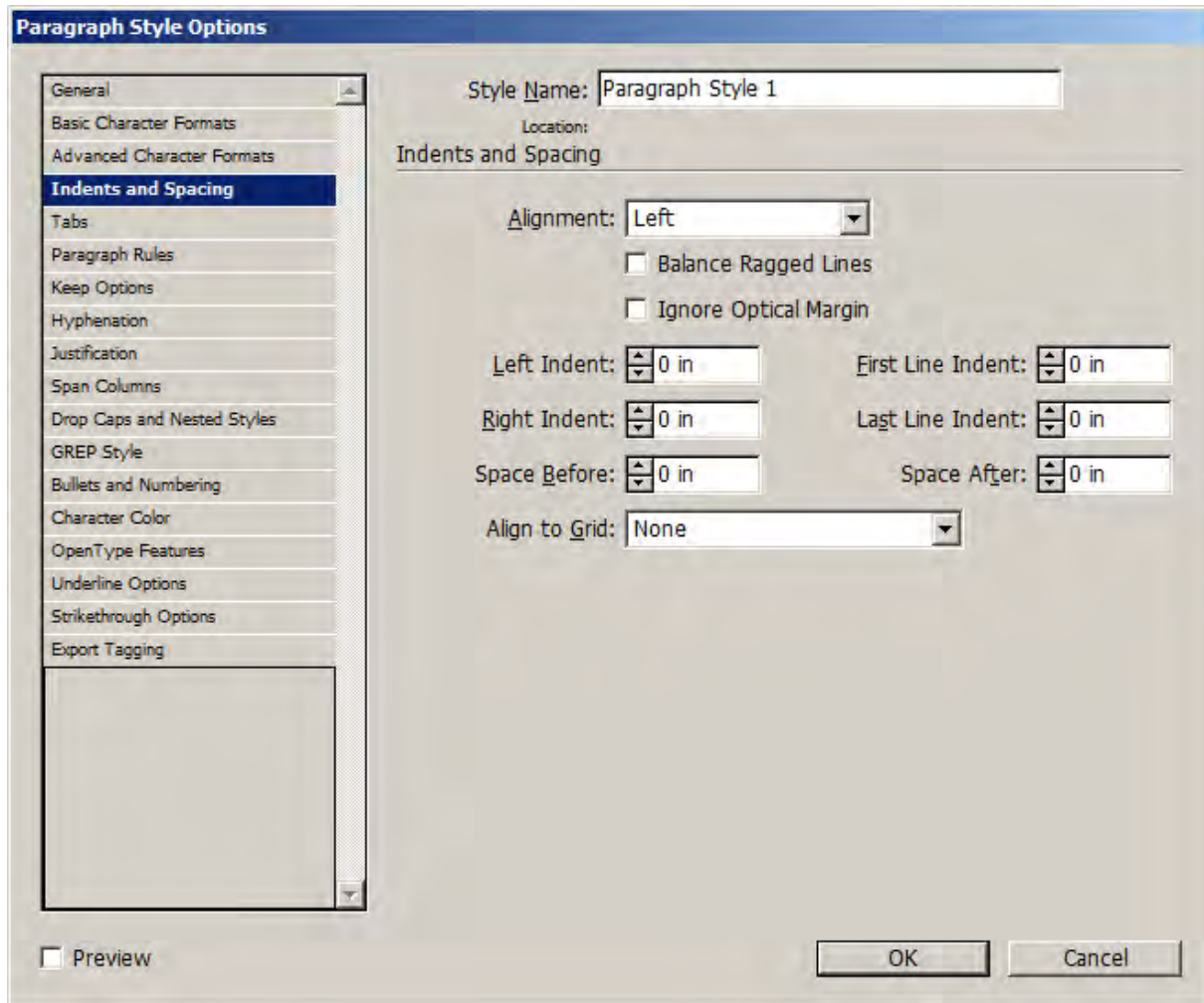


## PARAGRAPH INDENT

Use the InDesign Paragraph Indent option to format paragraphs with an initial indent. The specified indent value must be the same for all paragraphs within a text frame. If a paragraph needs a different indent value, it must be placed in a separate text frame.

The Paragraph Style Options panel is accessed by selecting **Type > Paragraph Styles** or selecting **Paragraph Styles** from the InDesign fly-out. Define the paragraph style as you would any InDesign paragraph style.

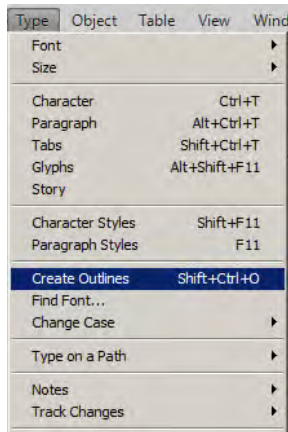




## CREATE OUTLINES

Use the InDesign Create Outlines option to automatically convert text characters to in line anchored objects. The text characters must be static, however, Variable Color, Xerox Specialty Inks, and Text Patterned Ink can be applied to them.

The Create Outlines Options panel is accessed by selecting **Type > Create Outlines**, (or selecting **Create Outlines** from the InDesign fly-out).



Limitations to this feature are:

- Text in a Text Frame:
  - Create Outlines creates a fixed path around the characters currently displayed within a text frame and therefore cannot be applied to variable text.
  - Create Outlines is supported for text characters with text patterns, Xerox Specialty Inks, and variable color. Xerox Specialty Inks must be applied after a text character has been converted to an outline; text patterns and variable color may be applied either before or after a character is converted to an outline.
  - All characters within a text frame must have Create Outlines applied; a mix of non-outlined and outlined characters is not supported.
- Text on a Path:
  - Create Outlines is not supported for variable text or text with text patterns, Xerox Specialty Inks, or variable color for open or closed paths.



Note: Text used as plain text objects (not converted to outlines) can support all the above (and more) and can be static or variable text. For this reason, we recommend that you use text as an outline (using the Create outlines option) only when absolutely necessary for your design, and only as a single object on the page. Using text as plain text provides you greater flexibility using VDE.

## Suppress Blank Variable Text lines

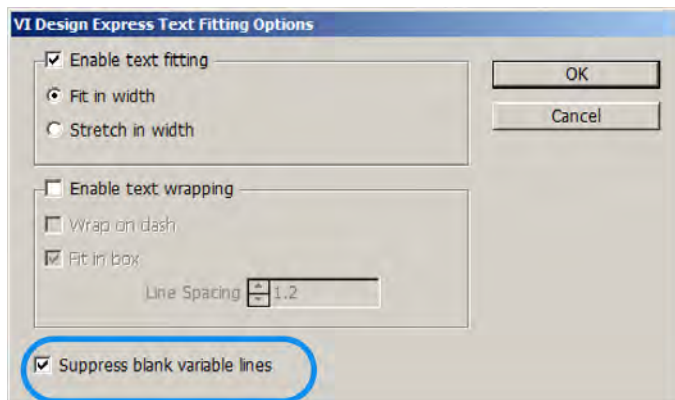
The Text Fitting panel includes an option to suppress variable blank lines in a text frame. This option is targeted for Name and Address blocks, where blank lines may occur if address tags or fields are empty. In the example below, a name and address text frame has been created.

Fname Lname  
Addr1  
Addr2  
City, State ZipCode

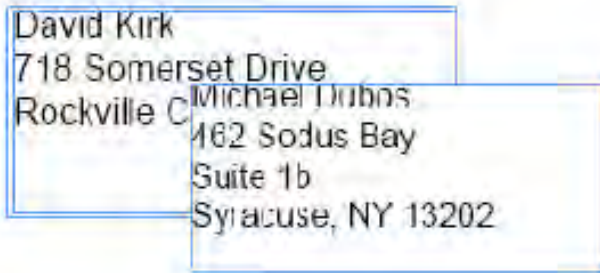
The Addr2 tag or field is highlighted as this is an optional tag or field in any address block and often will be empty.

David Kirk  
718 Somerset Drive  
  
Rockville Circle, PA 20850

When that happens, a blank line can be left in the name and address block. The Suppress blank variable lines option in the Text Fitting panel is designed to eliminate blank lines generated by empty variables.



Simply place the text cursor in the text frame and right-click and select the **Text Fitting** option. Check the **Suppress blank variable lines** option.



Using this simple technique, VDE will evaluate the tags or fields making up the name and address block, and if all the tags or fields on a single line are empty, it will suppress that line from printing. As seen in the example above, this will allow both three and four line address blocks to print without any white space.



Note: Although intended for use with Name and Address blocks, the Suppress Blank variable lines option can be used in any text frame where an empty variable may result in an unwanted blank line. The variable needs to be empty for this to take effect. If the variable has space, or any other characters, present then it is not considered empty.

## Tables Containing Variable Fields

Static tables have always been supported in Adobe InDesign and can be used as static elements in VDE. With VDE version 10.0 and above, text variables can be used inside tables.

Plan Cost	Plan Name	Local	Long Distance	Text Messages
\$10.00	Junior	Yes	N/A	Unlimited
\$30.00	Silver	Yes	Yes	500 msg
\$50.00	Gold	Yes	Yes	Unlimited
\$75.00	Family	Yes	Yes	Unlimited

In the above example, a table has been inserted in the InDesign document. The highlighted areas are variables driven from tags or fields in the XML or data file, or by a rule of transform. This allows you to generate variable tables where the data in the columns can change depending upon the variable data.

VDE can only support a single variable table in a frame. Basic frame functions are supported. Table and text rotation is not supported. If multiple tables are required in a document, each must be defined in its own frame. Variable tables are limited to a single solid line for cell borders. No Gap colors are supported. In addition, diagonal lines and baseline offsets are unsupported. Text can be placed in a frame above the table, but text cannot be wrapped around a table or under a table, it is recommended that you use multiple text frames to achieve this type of effect.



Note: When two cells sharing a side have different stroke colors and/or weights, only the one with the highest priority will be drawn. Set a high priority to a given cell stroke by checking the overprint box of the cell stroke you want to draw.

## Dynamic Character Styles

VDE gives the user the ability to dynamically apply character styles to text. This allows different character styles to be applied to the same block of text, based on the evaluation of the Style Rule. For more information, refer to [Rules](#).

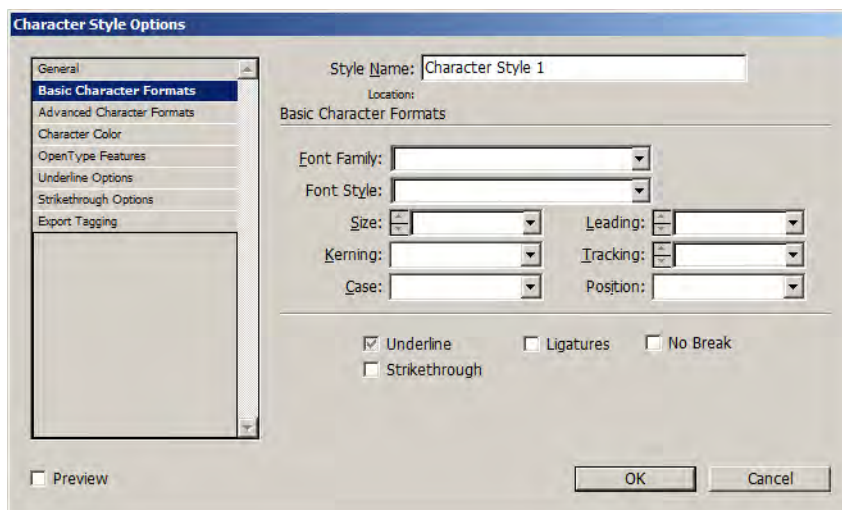
Dynamic Character Styles are limited to the following attributes:

- [Basic Character Formats](#)
- [Advanced Character Formats](#)
- [Character Color](#)
- [Underline Options](#)

Dynamic character styles are applied through the use of Style Rules set up in the VDE Rule Panel. Refer to [Rules](#) for more information on defining a Rule. These steps must be completed to use dynamic character styles:

- Define the character styles using the InDesign Character Style Panel.
- In the VDE Rule panel, create a Style Rule utilizing the InDesign character styles defined previously.
- Use the Insert Object command to apply the Style Rule to the selected text.

### BASIC CHARACTER FORMATS

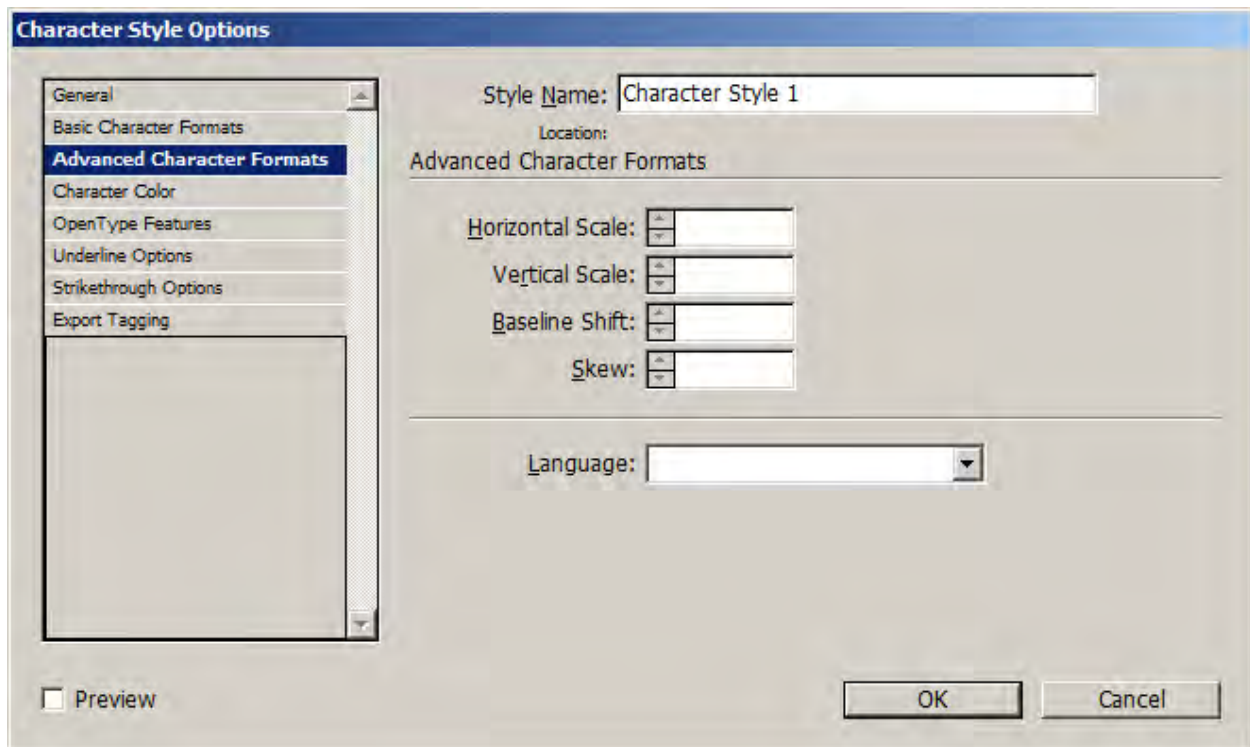


- Font Family
- Font Style
- Size
- Leading
- Kerning
- Tracking
- Case
- Position
- Underline

- Ligatures
- No Break
- Strikethrough

Font Family, and Font Style must be set together in the style. Do not set up one without the other; otherwise, the font setting from the style will be unpredictable.

### ADVANCED CHARACTER FORMATS

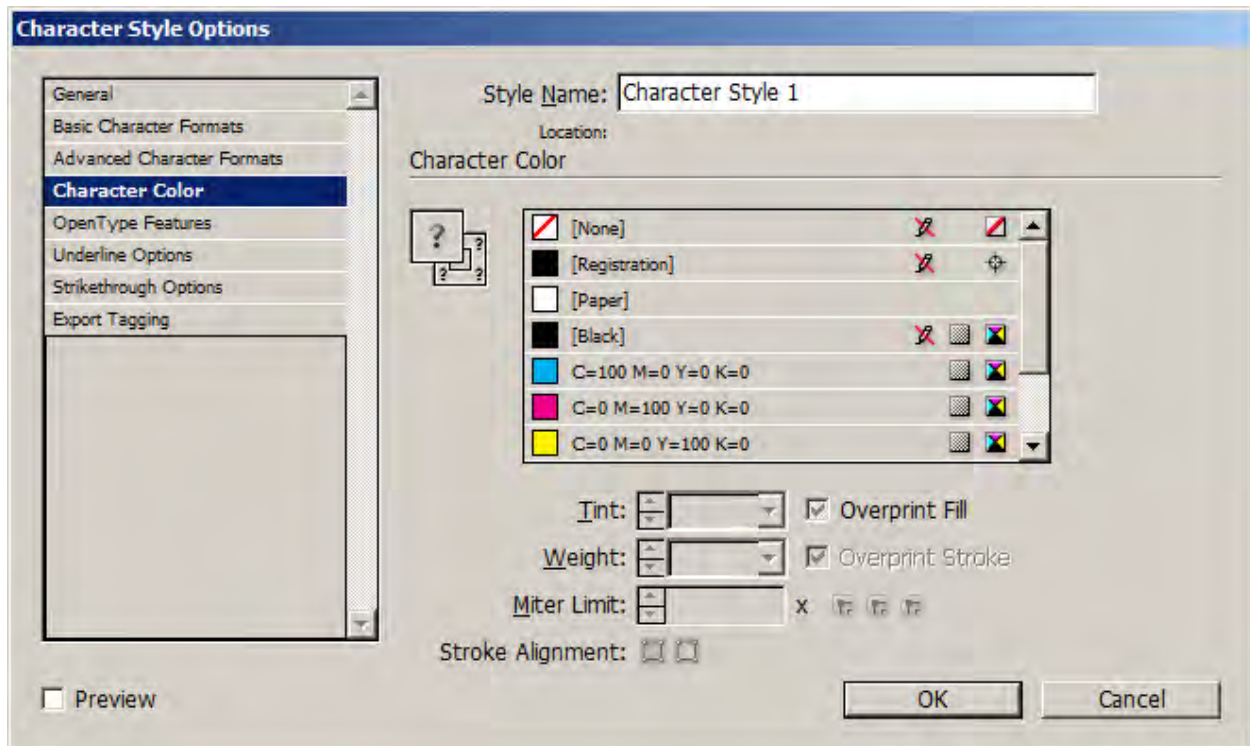


- Horizontal Scale
- Vertical Scale
- Baseline Shift
- Skew
- Language

The Horizontal and Vertical Scales must be set together with the same value. If different values are set one of them will be ignored.

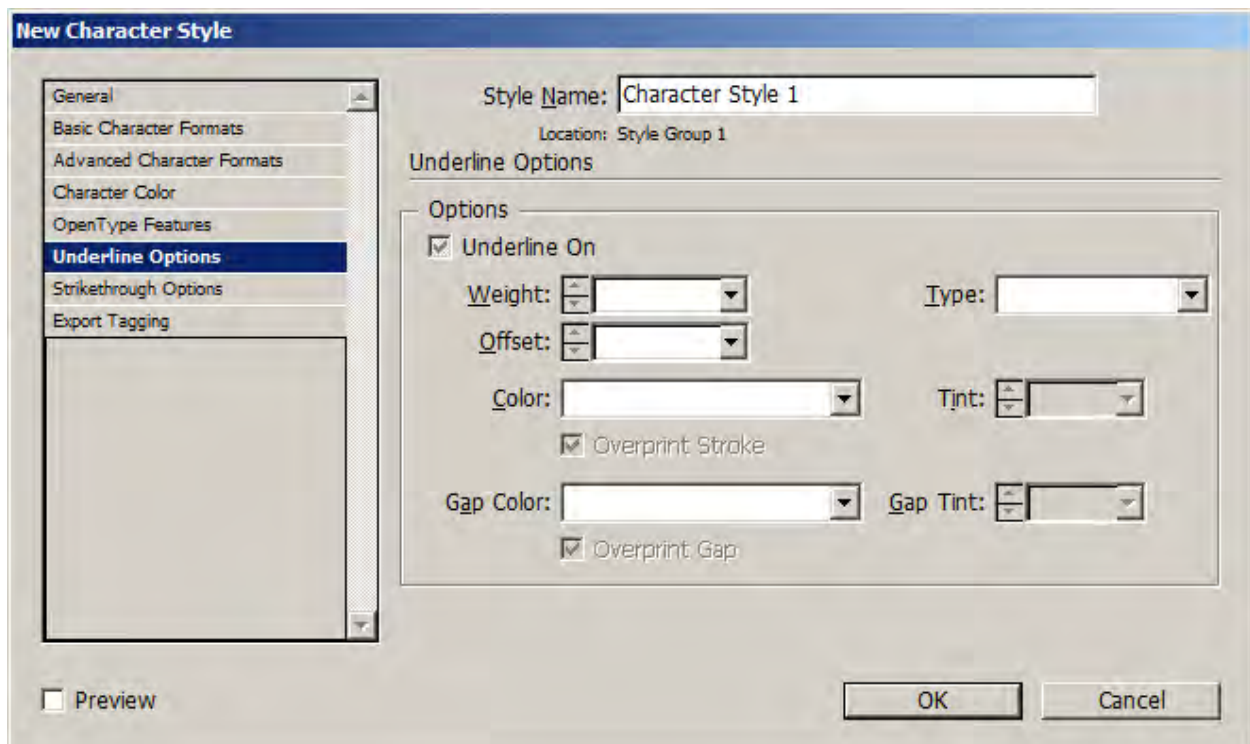


## CHARACTER COLOR



Only the character Fill Color is currently supported. The character Stroke Color settings will be ignored.

## UNDERLINE OPTIONS





- Only enabling or disabling Underline On is supported.
- The Type option supported is Solid.
- The Color option supported is Black.
- The Weight and Offset options supported are Auto.

## USING DYNAMIC CHARACTER STYLES

Dynamic character styles are typically used to highlight differences in a tag or data field value. The following examples contain information that varies according to a defined character style, which is controlled by a Style Rule:

- To highlight a customer name or a coupon amount by applying different text attributes.
- To highlight values on a financial report, using black for positive and red for negative values.
- To highlight a customer selection using various fonts, font sizes or colors.



Note: When setting a character style with font settings, the Font Family and Font Style must always be set as a pair, one cannot be set without the other.

### The Importance of a Default Character Style

It is recommended that you always define a default character style to avoid reverting to the InDesign Default text attributes if a Style Rule is evaluated to be false. The default character style can be set up as the dynamic style selected if none of the Style Rule tests are true. Also use the built-in option No Character Style to turn off any previously defined dynamic style.

#### Example

Please accept delivery of your **Ford** ...

Please accept delivery of your **Honda** ...

Please accept delivery of your MGB...

There is a Style Rule applied to the variable Car in the text strings shown above. When the data in the Car tag or field is equal to Ford, a style, with attributes set to 24 point Times Roman Bold Red, is applied. When the data in the Car tag or field is equal to Honda, a style, with attributes set to 24 point Times Roman Bold Green, is applied. However, there is no defined character style for a Car value equal to MGB, so no style is assigned. When no style is assigned, InDesign will use the default InDesign font attributes, in this example, Arial 18. To avoid this potential error, create a default style. In this case, defining a style with attributes set to 24 point Times Roman Bold Black, and applying it as the default style in the Style Rule, the text MGB will print using the default style's attributes, maintaining the look and feel of the text block.

## MIXING STATIC AND DYNAMIC TEXT STYLES

Static and dynamic text styles can be mixed in a text frame, as long as they are not assigned to the same text string. For example:

The quick brown fox jumped over the lazy dog.

In the text above, the blue text is assigned a static style using Times Roman Bold Blue. The color variable is assigned a dynamic style based on the value of the color (Times Roman Bold Brown). Once the required styles and Style Rules are defined, this effect is applied by:

- Highlighting the text The quick and applying the Blue style using the InDesign Character Style menu
- Highlighting the Color variable and assigning the Style Rule that will control the dynamic text style
- Highlighting the rest of the text, starting with the word fox and assigning a style using the InDesign Character style panel.

### Example

In the example below, the data file used contains XML tags or data fields called Gender, Name and Amount. The defined styles will cause the person's name to be printed in blue if the Gender tag or field is equal to Male, and in pink if Gender is equal to Female. The Amount will be printed in bold red if the value is negative, in black if positive.

The final printed version of the text block for two records may look like this:

Roxanne your account balance as of October 2009 is \$1,203.99. ...  
David your account balance as of October 2009 is -\$200.00. ...

To produce the final version of this example, follow the steps outlined below.

### Step 1, Create Character Styles

These four character styles were created in InDesign:

- CS1, set to the color Blue, font Arial 14.
- CS2, set to the color Pink, font Arial 14.
- CS3, set to the color Red, font Arial 14, Bold.
- CS4, is used as a default style and is set to black, Arial 14.

### Step 2, Create Character Style Rules

This example requires two Style Rules. One to control the dynamic style applied to the Name tag or field, based on a test of the tag or field Gender. The other tests the Amount tag or field and will use a Bold Red character Style (CS3) or the default black text style (CS4). The Style Rules, once defined, appear on the VDE Data Object list, under the Rules section.

The AmountStyleRule, shown below, is defined as follows:

The 'Edit Rule' dialog box shows the configuration for the 'AmountStyleRule'. The 'Rule Name' is 'AmountStyleRule', the 'Rule Type' is 'Style', and the 'Description' is 'Change charater style based on value in Amount'. The 'Default value' is set to 'CS4'. The 'Value' is set to 'CS3'. The logical test is 'when any of the following is true'. The test condition is 'Amount' is less than '0'.

<b>RuleName</b>	Is user defined, in this example the Rule is named AmountStyleRule.
<b>Rule Type</b>	In this example, the Rule type is set to <b>Style</b>
<b>Default Value</b>	Is the default style to use if all other entries are evaluated to false. This is set to <b>CS4</b> .
<b>Value</b>	This has been set to the CS3 style.  The logical test is set to <b>When any of the following is true</b> .
<b>Amount</b>	Is the tag or data field to be tested using these options:  <b>[#]</b> is less than the comparison operator  <b>0</b> the number to compare "amount" to

Thus, the AmountStyleRule can be summarized as: If the tag or data field Amount is less than Zero, then use the style CS3 (Bold Red), otherwise use the style CS4 (the default Arial 20 Black).

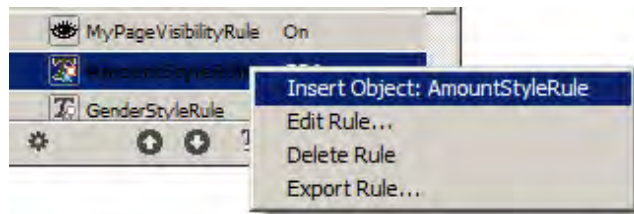
The GenderStyleRule is shown below:

The 'Create Rule' dialog box shows the configuration for the 'GenderStyleRule'. The 'Rule Name' is 'GenderStyleRule', the 'Rule Type' is 'Style', and the 'Description' is 'Change Text Style based on gender'. The 'Default value' is set to 'CS2'. The 'Value' is set to 'CS1'. The logical test is 'when any of the following is true'. The test condition is 'Gender' is not equal to (ignore case) 'Male'.

The GenderStyleRule works in the same way as the AmountStyleRule. The Rule can be summarized as: Use the CS1 style when the tag or field, Gender, equals Male (Ignore case). If anything else, then apply the style CS2.

### Step 3, Apply the Rules

Right-click the desired **Rule** in the data objects list, then choose **Insert Object:...** from the context menu to apply the Style Rule to the selected text.



## Graphics

In a variable document, graphic elements are either static or variable. Static graphic elements do not vary. Variable graphic elements are data driven and vary according to the information contained in the data files associated with the design.



Note: VDE supports the Rounded option for corners under the InDesign Corner Options panel. Select **Object > Corner Options...** to access the Corner Options panel.

### STATIC GRAPHICS

As with Static text, a static graphic is one that is not data driven. A static graphic is inserted into the document using standard InDesign Graphic tools and controls. A static graphic can be of any graphic file format that InDesign supports.



Note: A static graphic, such as a logo, that is placed on a layer, where the layer can be called conditionally, is still considered a static graphic.

### VARIABLE IMAGES

Variable images change according to information contained in the data files and Rules associated with the design.

#### Graphic file format

Variable image files must be a graphic format supported by VI Compose (Tiff, Jpeg, EPS or PS).

#### Scaling and rotation

Because scaling or rotation can affect print performance, it is recommended that all graphic files be created in the size and orientation that is used in the application.

#### Fitting options

It is recommended that the image, and the corresponding graphic frame used in the application, be created at the same size. (A 50x50 pixel image should be inserted into a 50x50 pixel graphic frame.) Although the use of the Fitting options is allowed, their use may result in additional processing time and a less efficient print file.

#### Basic Variable Image Insertion

The following steps outline the method used to insert a supported graphic file into a graphic frame when no adjustments must be made to resize the image to the frame.

- Create a graphic box using the InDesign tool, or use an existing graphic box.
- Ensure that the appropriate graphic fitting option is selected when creating a new graphic box. Right-click the **frame**, choose **Fitting > Frame Fitting Options** from the pop-up menu, then choose one of these Fitting options (refer to [Fitting an image to a frame](#) for more detailed information):
  - None
  - Fit Content to Frame
  - Fit Content Proportionally
  - Fill Frame Proportionally

- Right-click the **frame** then choose **Content > Graphic**, to define the frame as a graphic box.
- Adjust the size of the graphic frame to the same dimensions as the image to be inserted.
- Ensure that the object referenced contains a valid image file name, such as myfile.jpg. The file must be located in the current asset folder. The data type for that object in VDE must be set to Graphic File.
- Highlight the object containing the required image file reference, and either double-click the **object** or select the **Insert Data Object** button to insert the image into the document. If the Show User Data is not checked, the name of the variable image object (not the name of the image file) will appear. As the records change the image or file name will change, assuming the referenced image file changes with each record.

### Remove an Image

To remove a variable image from a graphics frame, select the graphics frame associated with the variable graphic, and right-click the corresponding **graphic object** in the VDE list to select the menu command, **Detach Graphic Object from Frame**.

### Fitting an Image to a Frame

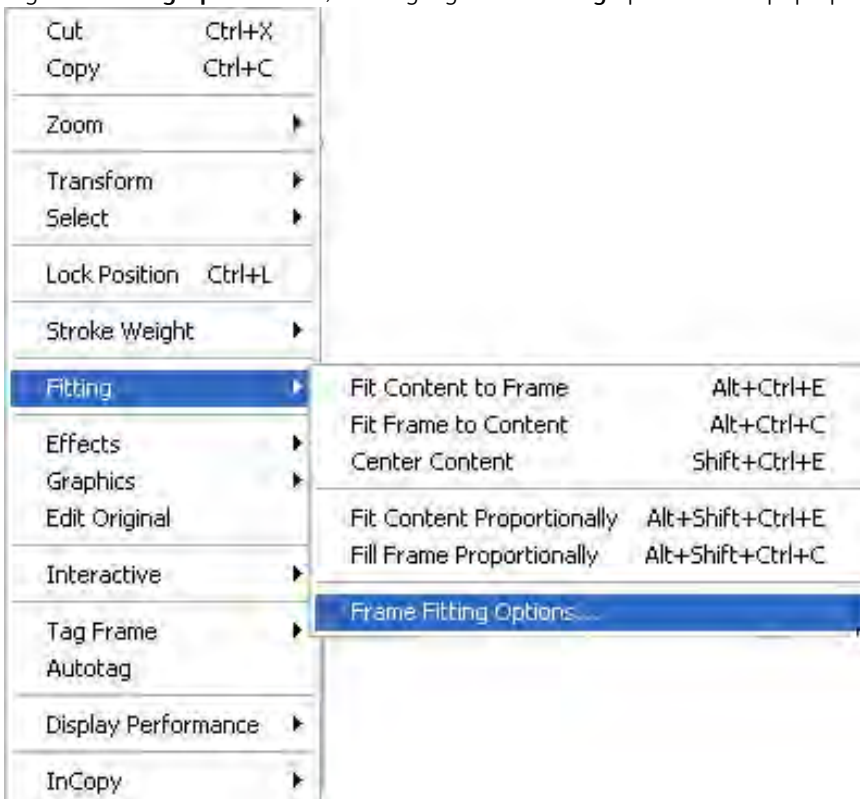
When placing a variable graphic into a graphic frame, InDesign has many options to affect the look and feel of that graphic. For example, it can be sized to fit the frame or the frame could be sized to fit the graphic. However, VDE does not currently support all the InDesign menu options. Failure to use the correct method may result in the InDesign screen changing to reflect the option selected, but it will fail to generate the correct VIPP® Pro code during export. In fact, when scrolling through the records using the VDE record counter, it is likely that InDesign will revert to previous default settings.



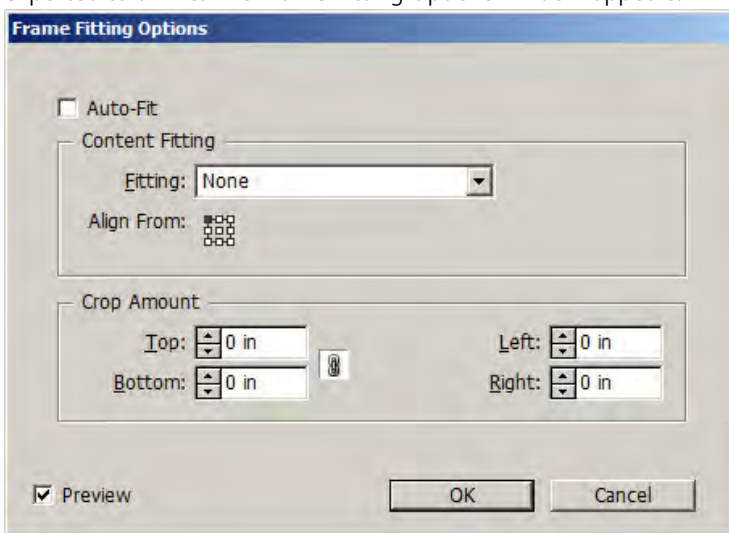
**Caution:** At present, the only frame fitting options that are retained after a variable image is changed are the options applied via the Frame Fitting Options panel. (These can be applied before or after a variable graphics object is attached to the frame.) If a variable image is inserted into a frame and a Fitting option is chosen from the menu produced by right-clicking (as opposed to the Frame Fitting Options panel), the options will not be retained. Similarly, if, after an image is inserted, the white arrow tool is used to move or otherwise modify the image within the frame, those options will not be retained once the image is updated.

If images must be adjusted to fit into a frame, use this method:

1. Right-click the **graphic frame**, and highlight the **Fitting** option on the pop-up menu to produce the following:



2. Select **Frame Fitting Options...**, the other options will not produce the expected results when the job is exported to a VPC. The Frame Fitting Options window appears.



3. From the Fitting drop-down list, choose from one of the following options:

- None
- Fit Content to Frame
- Fit Content Proportionally
- Fill Frame Proportionally



Note: Make sure that the Crop values are all reset to zero (0).

4. When the selections are complete click **OK** to save or **Cancel** to exit the window without saving.



## Barcodes

The general steps for inserting the barcode into the design are outlined here:

- Create a graphic box using the InDesign tool, or use an existing graphic box in the design. The box should be the approximate size of the printed barcode and in the approximate location where the barcode should appear.
- Right-click the frame, then choose **VDE Barcode Options**.

### Frame settings for Barcodes

When creating any barcode in VI Design Express always verify that the frame settings are set as below:

#### Content Fitting

is set to **None**

#### Crop Amount

values are set to **0** (zero)

Barcodes can only be used with the Frame Fitting Option set to None. For more information, refer to [Fitting an image to a frame](#).

The following options are NOT supported:

- Fit Content to Frame
- Fit Content Proportionately
- Fill Frame Proportionally
- Choose the **Barcode Type** from the drop-down list. The list consists of these supported Barcode Types:
  - Aztec
  - Data Matrix
  - EAN-5
  - EAN-8
  - EAN-13
  - GS1 Databar
  - MaxiCode
  - PDF417
  - QR Code
  - UPC-A
  - UPC-E
  - USPS 4-State Customer Barcode (IMB)
  - Code 128
  - Code 39
  - EAN 128
  - EAN (8-digit)

- EAN (13-digit)
  - Interleaved 2 of 5
  - PostJPN
  - PostNet
  - UPC (Version A)
- Enter the correct parameters in the resulting fields on the panel. For specific information about any of the barcodes listed here, refer to the related barcode specifications available from customers or the internet.



Note: Because barcodes cannot be dynamically created within InDesign, a placeholder image is displayed on the screen. Because the size of the placeholder image cannot always match the exact size or position of the printed barcode, the output has verified either by viewing the VPC file, or by printing a test on a VIPP® Pro-enabled printer.

When a **Barcode Type** is selected from the VDE Barcode Options panel, the panel is configured to provide the fields necessary for barcode insertion. The panels and fields are described below. For specific information about any of the barcodes listed here, refer to the related barcode command in the *VIPP® Language Reference Manual*.

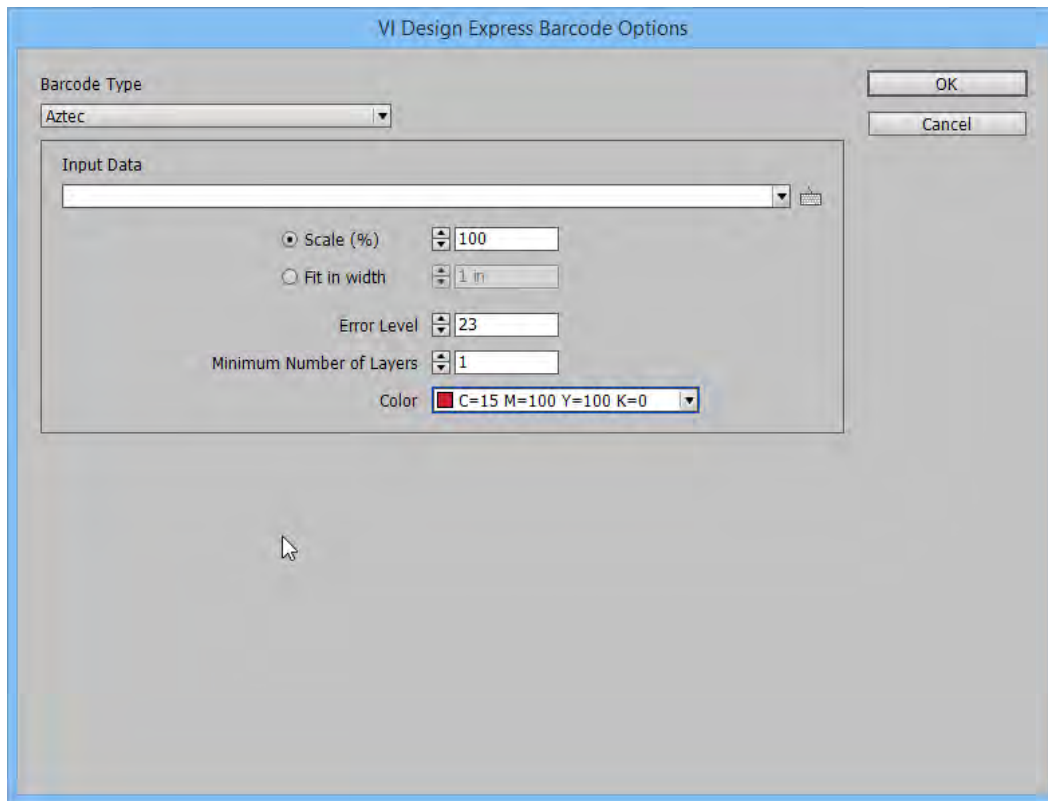


Note: For information on acceptable input on any of the following barcode panels, refer to the specification for the specific barcode. This information is not supplied as part of this documentation, but are accessed online by searching for the barcode specifications.



**Warning:** Make sure that the data selected for the barcode is valid for that barcode option based upon the specifications for the barcode. VI Design Express and VI Compose do not validate barcode data. Barcodes generated with incorrect data per the barcode specification can no scan.

## AZTEC



### Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

### Scale (%)

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100 %. Enter a scaling factor if required, however, using scaling factors other than 100 % cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

### Fit in width

Enter the width of the desired barcode. VDE will automatically scale the barcode to that width, Vertical and Horizontally.

### Error level

The default is 23. Values range between 0 and 99. As the value increases data capacity and decoding error chances decrease.

### Minimum Number of Layers

Values between 1 and 32 are accepted, the default is 23.

## Color

Select a color for the barcode from the drop down swatch menu. The default is black.

## DATA MATRIX

The screenshot shows a dialog box titled "Barcode Type" with a dropdown menu set to "DataMatrix". Below this is an "Input Data" section with a text field and a button. Further down are settings for "Encode data as:" (set to "ASCII"), "Scale (%)" (radio button selected, set to "100"), "Fit in width" (radio button unselected, set to "1 in"), "Shape" (set to "Square"), "Minimum Dimension of the Symbol" (set to "8"), and "Color" (set to "[Black]").

### Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

### Encode data as

Select ASCII, Base 256, C40, C40+, Text, or Text+.

### Where:

<b>C40</b>	Is optimized for digits, uppercase letters, and space.
<b>C40+</b>	Is optimized for digits, uppercase letters, and space, with compression of digit sequences greater than 13 digits.
<b>Text</b>	Is optimized for digits, lowercase letters, and space.
<b>Text+</b>	Is optimized for digits, lowercase letters, and space, with compression of digit sequences greater than 13 digits.

### Scale (%)

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## Shape

Choose Square or Rectangle.

## Minimum Dimension of the Symbol

Minimum size of the Data matrix symbol.

## Color

Select a color for the barcode from the drop down swatch menu. The default is black.

## EAN-5

VI Design Express Barcode Options

Barcode Type  
EAN-5

Input Data

100% 100%

☐ Print human-readable digits

Font Family: Arial  
Font Style: Regular  
Font Size: 12

Color  
[Black]

OK  
Cancel

## Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## Print human-readable digits

Enable this check box when human readable digits are required. The following options will be available:

## Font Family

Select a font family, Arial, Courier New, or Times New Roman.

## Font Style

Choose Regular or Bold.

## Font Size

Select the font size to use in your application.

## Color

Select a color for the barcode from the drop-down swatch menu. The default is black.

## EAN-8

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'EAN-8'. The 'Input Data' field is empty. The 'Print human-readable digits' checkbox is unchecked. The font settings are: Font Family: Arial, Font Style: Regular, Font Size: 12. The Color is set to Black. The dialog has 'OK' and 'Cancel' buttons on the right.

## Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in

barcodes that overflow the boundaries of the frame.

### Print human-readable digits

Enable this check box when human readable digits are required. The following options are will be available:

#### Font Family

Select a font family, Arial, Courier New, or Times New Roman.

#### Font Style

Choose Regular or Bold.

#### Font Size

Select the font size to use in your application.

#### Color

Select a color for the barcode from the drop down swatch menu. The default is black.

### EAN-13

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' dropdown is set to 'EAN-13'. The 'Input Data' field is empty. Below it, there are two '100%' scale indicators. The 'Print human-readable digits' checkbox is unchecked. The font settings are: Font Family: Arial, Font Style: Regular, and Font Size: 12. The Color dropdown is set to '[Black]'. The dialog has 'OK' and 'Cancel' buttons in the top right corner.

### **Input Data**

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

### **Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100 %. Enter a scaling factor if required, however, using scaling factors other than 100 % cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

### **Print human-readable digits**

Enable this check box when human readable digits are required. The following options are will be available:

### **Font Family**

Select a font family, Arial, Courier New, or Times New Roman.

### **Font Style**

Choose Regular or Bold.

### **Font Size**

Select the font size to use in your application.

### **Color**

Select a color for the barcode from the drop down swatch menu. The default is black.



## GS1 DATABAR

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'GS1 Databar'. The 'GS1 Databar Type' is set to 'Omnidirectional'. The 'Input Data' field is empty. The 'Segments Per Row' is set to '2'. There are two '100%' labels with up/down arrows. The 'Print human-readable digits' checkbox is unchecked. The font settings are: Font Family: 'Arial', Font Style: 'Regular', and Font Size: '10'. The 'Color' is set to '[Black]'.

### GS1 Databar Type

Select one of the following GS1 Databar types from the drop-down list:

- Omnidirectional
- Truncated
- Stacked
- Stacked Omnidirectional
- Limited
- Expanded
- Expanded Stacked

### Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

### Segments Per Row

Enter data here to specify the number of segments encoded per row. For more information refer to the GS1

Databar ISO specification.

### **Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size are larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

### **Print human-readable digits**

Enable this check box when human readable digits are required. The following options are will be available:

#### **Font Family**

Select a font family, Arial, Courier New, or Times New Roman.

#### **Font Style**

Choose Regular or Bold.

#### **Font Size**

Select the font size to use in your application.

#### **Color**

Select a color for the barcode from the drop down swatch menu. The default is black.

## MAXICODE

The image shows a dialog box titled "VI Design Express Barcode Options". It has a "Barcode Type" dropdown menu set to "MaxiCode". Below this is an "Input Data" section with a text field and a small icon button. The "Mode" dropdown is set to "2 - Numeric postal codes". There are two radio buttons: "Scale (%)" which is selected and has a value of "100", and "Fit in width" which has a value of "1 in". The "Color" dropdown is set to "[Black]". There are "OK" and "Cancel" buttons in the top right corner.

### Input Data

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

### Mode

Select one of the following modes from the drop-down list:

- |   |                            |
|---|----------------------------|
| 2 | Numeric postal codes       |
| 3 | Alphanumeric postal codes  |
| 4 | Standard error correction  |
| 5 | Enhanced error correction  |
| 6 | Barcode reader programming |

### Scale (%)

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are

scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size are larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

### Fit in width

Enter the width of the desired barcode. VDE will automatically scale the barcode to that width, Vertical and Horizontally.

### Color

Select a color for the barcode from the drop down swatch menu. The default is black.

## PDF417

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'PDF417'. The 'Input Data' section has a dropdown set to 'Byte Data' and an empty text field. Below this, there are three radio button options: 'Use default dimensions' (selected), 'Specify rows' (with a value of 3), and 'Specify columns' (with a value of 1). There are also 'Rows' and 'Columns' labels with corresponding input fields set to 1. At the bottom, there is a 'Truncate the barcode' checkbox (unchecked), a 'Scale (%)' radio button (selected) with a value of 100, a 'Fit in width' radio button (unchecked) with a value of 1 in, an 'Error Level' dropdown set to 2, and a 'Color' dropdown set to [Black]. 'OK' and 'Cancel' buttons are in the top right corner.

Input Data:

### Field 1

Select the Input Data type, Text Data, Byte Data, Byte Data in Hexadecimal, or Numeric Data.

### Field 2

Enter data, or select an existing tag or field or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

**Use default dimensions**

Enable this button to use default values.

**Specify rows**

Enable this button to enter the number of rows used by the barcode.

**Specify columns**

Enable this button to enter the number of columns used by the barcode.

**Specify aspect ratio**

Enable this button to specify both rows and columns used by the barcode.

**Truncate the barcode**

Enable this selection to generate a PDF417 2D barcode.

**Scale (%)**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

**Fit in width**

Enter the width of the desired barcode. VDE are automatically scale the barcode to that width, Vertical and Horizontally.

**Error Level**

Choose a value between 0 and 8. Error correction levels determine the amount of damage and error correction the PDF417 barcode can endure without loss of data. A minimum level of 2 is recommended and the amount of data and the size of the barcode should be taken into account when selecting the appropriate error level. The larger the amount of data and size of the barcode, the higher this number should be.

**Color**

Select a color for the barcode from the drop down swatch menu. The default is black.

**QR CODE**

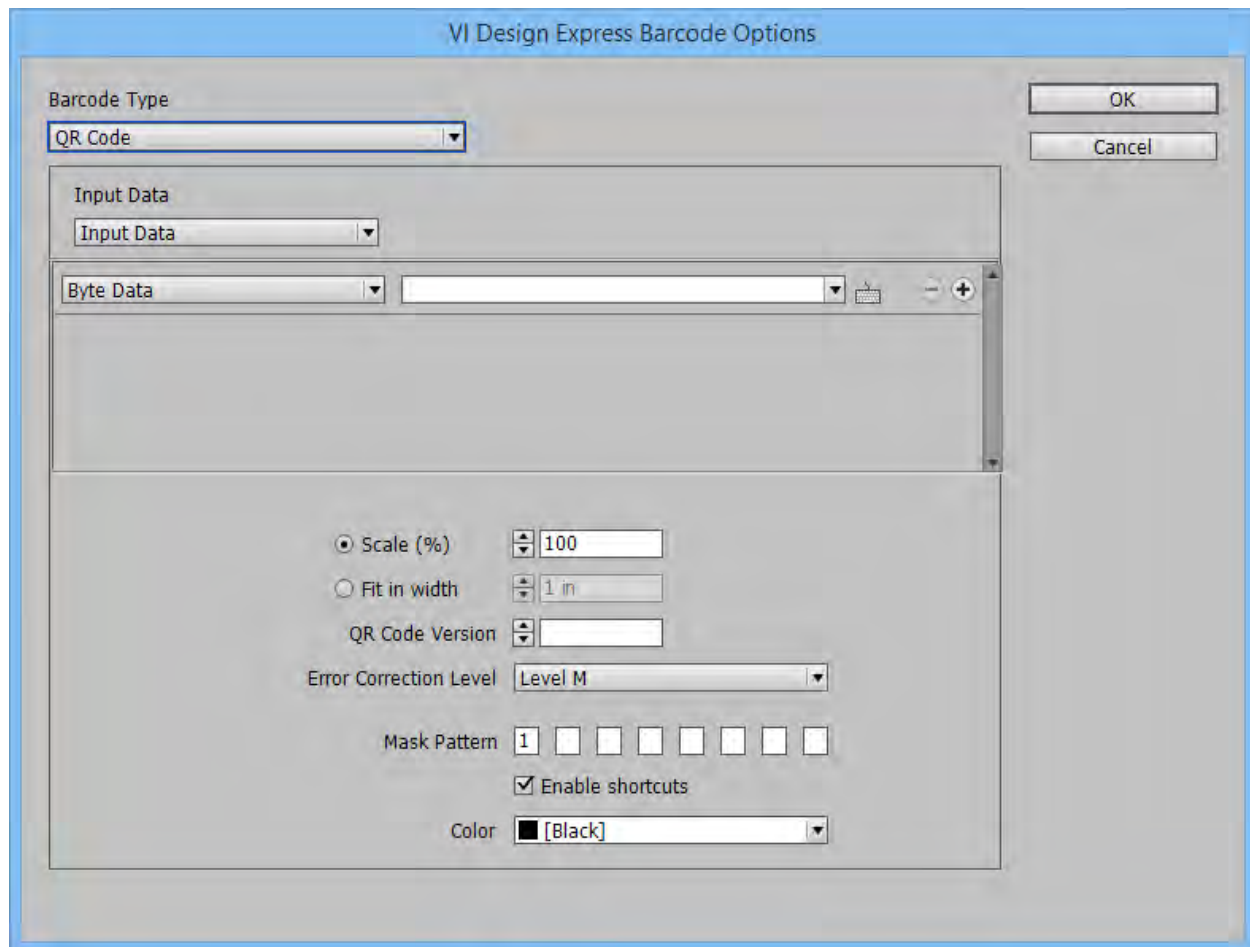
VDE supports a subset of the full QR Code specification. The available options are shown below. VDE displays a place holder for the QR barcode on the document. When the document is printed on a VIPP® Pro-enabled device the place holder is replaced with an image of the QR code barcode. No encoder or special fonts are required.

URLs, SMS, GEO Co-ordinates, contact Info, text, and so on, are just some of the contents that can be included in a QR barcode. For more information on how to embed these options into a QR Code refer to the QR code specifications available on the web.



Note: VDE does not support Kanji, mixed data modes, any multi-byte character support. When this support is required, VI Design Pro, where support for this has been enabled are used.

The QR Code options are displayed on the VDE Barcode Options panel.



### Input Data

### Text Data

Select **Text Data for Alphanumeric Compaction** mode. This allows the use of an alphanumeric text string either input using the keyboard or as a data object selected from the Data Object List. The data must be comprised of only these 45 characters: 0–9, A–Z, %, \$, &, +, -, , /, :, and the space character.

### Byte Data

Select **Byte data for Byte Compaction** mode to encode the 8-bit Latin character set. This is the default option, select it when unsure of which option to choose.

### Byte Data in Hexadecimal

Data in a hexadecimal format may be used to pass data that contains control characters that would otherwise be converted or transformed.

### Numeric Data

Select **Numeric Data for Numeric Compaction mode**. In Numeric Compaction mode only the characters 0–9 are valid.

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' dropdown is set to 'QR Code'. The 'Input Data' dropdown is set to 'Website Address (URL)'. The 'URL' section contains a 'FullName' dropdown and an 'Add URL tag' checkbox. The 'OK' and 'Cancel' buttons are on the right.

### Website Address (URL)

The input string is expected to be a website URL link which will be embedded in the QR Code barcode. When scanned with an appropriate QR Code reader and scanner, the barcode signals the application to open a web browser with the given website link. The Add URL tag is an option provided in case the QR Code reader application requires an initial URL tag for the website URL link embedded in the QR Code barcode. Either enter the URL, or the information can be contained in a tag, data field, rule, or data transform.

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' dropdown is set to 'QR Code'. The 'Input Data' dropdown is set to 'Geo Coordinates'. The 'Latitude' and 'Longitude' sections each contain a 'FullName' dropdown. The 'OK' and 'Cancel' buttons are on the right.

### Geo Coordinates

This panel allows the user to create a QR Code with Geo-coordinate information embedded. The expected input parameters are Latitude and Longitude in decimal degrees, which will be embedded in the QR Code barcode. When scanned with an appropriate QR Code reader/scanner, the barcode signals the application to open a mapping service with the given GPS coordinates.

Latitude and Longitude values can be typed in or can be variables selected from your data file (or Rules and Data Transforms).

<b>Latitude</b>	is a positive or negative decimal number
<b>Longitude</b>	is a positive or negative decimal number
	For example, given the following address:
	Xerox Corporation
	701 S. Aviation Blvd
	El Segundo, CA 90245
	The latitude and longitude values would be:
	Latitude: 33.9046405
	Longitude: -118.3787178

**TIP**

Use Google maps or other mapping software to obtain the correct latitude and longitude values in decimal degrees for the geographical location you want to identify.

**Contact Info**

This feature supports both VCard 2.1 and 3.0 specifications to create a QR Code barcode that contains contact information that, when being scanned with an appropriate QR Code reader and scanner, can be saved directly into a mobile devices Contact List.

**The available data entry fields are listed here:**

<b>Name Prefix</b>	Mr., Mrs., Ms., Dr., Capt., and so on.
<b>First name</b>	Required Field
<b>Middle Name / Initial</b>	Middle name or initial
<b>Last Name</b>	Required Field
<b>Name Suffix</b>	Jr., Sr., Ph.D., Esq., CPA, and so on.
<b>Job Title</b>	



Company / Organization

Unit / Division / Department

Website Address Enter a fully qualified URL link. For example: <http://www.xerox.com>.

Address Line 1

Address Line 2

P.O. Box

City / Locality

State / Province / Region

Postal / Zip Code

Country

Work Phone

Home Phone

Mobile / Cell Phone

Fax For international telephone numbers, the following format is recommended: + Country Code (Area Code) Local Number, for example: +1 (310) 555-1234

Email Address

The image shows a settings panel for generating a QR code. It contains the following controls:

- Scale (%)**: A radio button selected next to a text field containing "100".
- Fit in width**: A radio button next to a text field containing "1 in".
- QR Code Version**: A dropdown menu.
- Error Correction Level**: A dropdown menu showing "Level M".
- Mask Pattern**: A row of seven checkboxes, the first of which is checked and labeled "1".
- Enable shortcuts**: A checked checkbox.
- Color**: A color selection area showing a black square and the text "[Black]".

Scale (%)

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame 100% is the default scale value.



Note: VDE places a place holder image on the page; this is not affected by the Scale option. The only way to view the rendered QR Code barcode on the page is to export the application to a VI Project Container and print it to a VIPP® Pro-enabled printer.

### Fit in width

Enter the width of the desired barcode. VDE will automatically scale the barcode to that width, Vertically and Horizontally.

### QR Code Version

QR Code Version is optional. When the edit box is empty the QR Code Version is not used.

There is a correlation between the QR Code Version and the size of a barcode. When the edit box is empty the version will be automatically determined, that is the barcode will be made as small as possible based on the amount of data to encode and the error correction level. Xerox recommends leaving the edit box empty. A version can be specified to fix the size of a barcode, however, this should only be done when the size of the barcode is known and will always accommodate the data and error correction level.

### Error Correction Level

Error Correction refers to the level of error checking performed by the QR Code encoding scheme. Refer to the QR Code ISO specification for additional information on Error Correction Level. Available Error Correction Levels are:

- Level L
- Level M
- Level Q
- Level H

There is a correlation between the error correction level and the capability of recovering data from a damaged barcode. Error correction level L provides the least amount of recovery capacity, and error correction level H, the most. There is also a correlation between the error correction level and the size of the barcode. Level H provides greater capability for recovering damaged data but it also generates a larger barcode. Xerox recommends M as the error correction level unless the printed barcodes are likely to be damaged.

### Mask Pattern

The Mask Pattern refers to setting an array of 1–8 characters that will specify the QR Code masks used by the encoder to verify a readable barcode has been produced. If uncertain, leave the default option of 1 selected.

There are eight different mask patterns that can be used generate a barcode. Xerox recommends using mask pattern 1, although any one of the eight patterns have been found to produce good barcodes. If for some reason there is a problem with the readability of a barcode, enter more than one mask pattern and the more favorable of the mask patterns will be used to create the barcode.



Note: There is a correlation between the number of mask patterns and performance. The greater the number of mask patterns, the longer it takes to create a barcode.

### Enable shortcuts

The enable shortcuts option should always be selected and checked unless the reliability of barcodes is an issue. When selected, this feature cuts back on the number of tests used to analyze the readability of a barcode.

### Color

Select a color for the barcode from the drop down swatch menu. The default is black.

## USPS 4-STATE CUSTOMER BARCODE (IMB)

### Tracking Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list.

Tracking Data is the 20 digit tracking data string comprised of the following sub-fields:

- 2 digit Barcode Identifier. The second digit must be 0 through 4.
- 3 digit Service type Identifier.
- 6 digit mailer Identifier.
- 9 digit Serial Number.

This string may have spaces to match the human readable form that may be required by some uses of the 4-state barcode and to improve readability.

This can be entered as text or by selecting a single data field from the Data Object List. Typically, a Data Transform is created to concatenate all the required data into a new data object selected from the Data Object List.

### Routing Code

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string via the keyboard.

Routing code is the delivery point ZIP code. It can be in any of the 4 forms accepted by the USPS:

( )	An empty or null string for no ZIP code.
(12345)	A 5 digit ZIP code
(12345-6789)	A 9 digit ZIP+4 code
(12345-6789 01)	An eleven digit ZIP+4 + 2 digit DPC

This string may have spaces, to match the human readable form that may be required by some uses of the 4-state barcode, or dashes (-) to improve readability.

If Routing Code data is not available in a single data object, a new data transform can be created to concatenate the data into a new data object that may be selected from the Data Object List.

### Color

Select a color for the barcode from the drop down swatch menu. The default is black.

### UPC-A

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'UPC-A'. The 'Input Data' field is empty. Below it, there are two '100%' scale indicators. A checkbox for 'Print human-readable digits' is unchecked. The font settings are: Font Family: Arial, Font Style: Regular, and Font Size: 10. The Color is set to Black.

This option does not require the installation of a printer font on the target device. Using the data provided, VIPP® will draw the barcode on the fly.

### Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list or enter a string via the keyboard. The string passed the UPC-A barcode must contain 11 numeric characters.

**Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size are larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

**Print human-readable digits**

Enable this checkbox to print human-readable digits below the barcode. When enabled, you are able to set the following values for the human-readable digits:

**Font Family**

Select a font from the drop-down list of available fonts.

**Font Style**

Choose the font style: Regular or Bold.

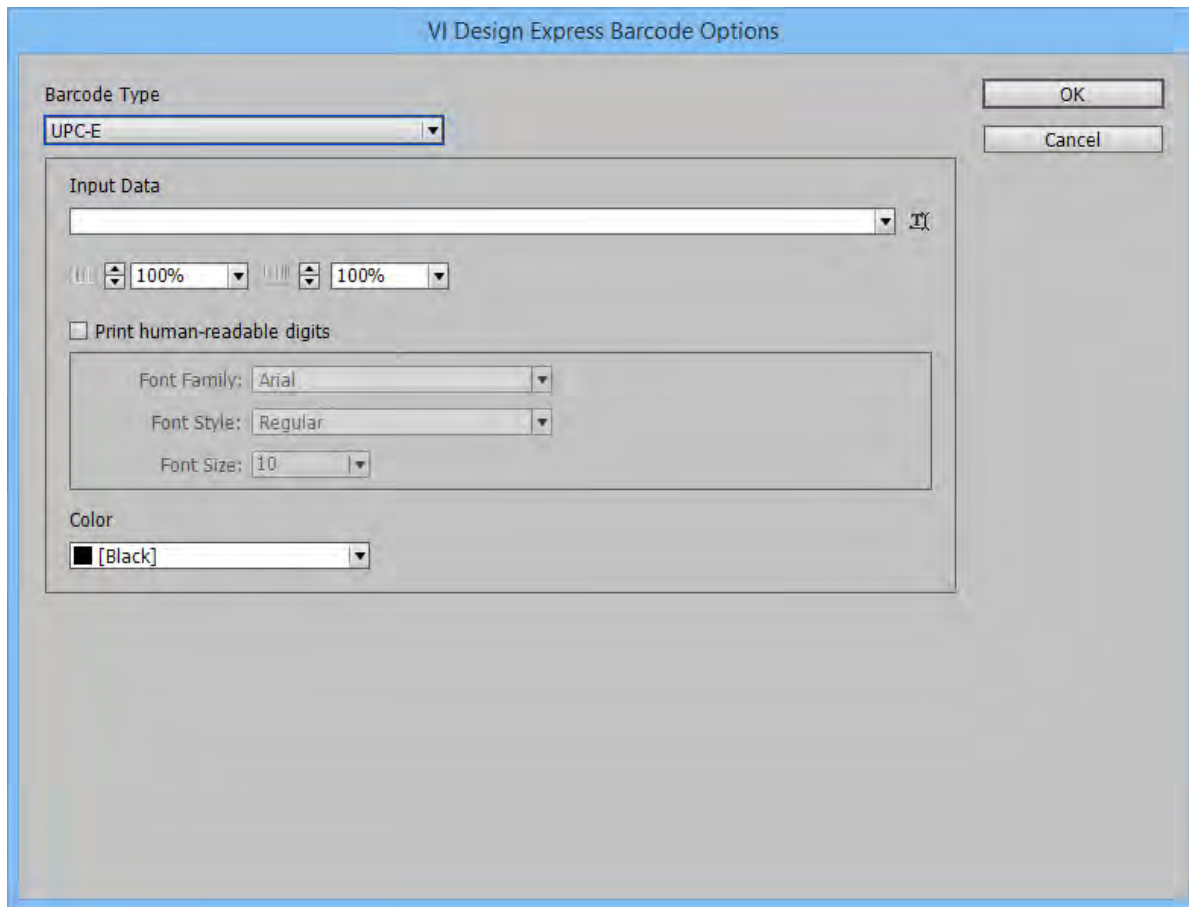
**Font Size**

Choose the size to print the digits.

**Color**

Select a color for the barcode from the drop down swatch menu. The default is black.

## UPC-E



This option does not require the installation of a printer font on the target device. Using the data provided, VIPP® will draw the barcode on the fly.

### Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list or enter a string via the keyboard. The string passed the UPC-A barcode contains 7 numeric characters.

### Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

### Print human-readable digits

Enable this checkbox to print human-readable digits below the barcode. When enabled, you are able to set the following values for the human-readable digits:

### Font Family

Select a font from the drop-down list of available fonts.

**Font Style**

Choose the font style: Regular or Bold.

**Font Size**

Choose the size to print the digits.

**Color**

Select a color for the barcode from the drop down swatch menu. The default is black.

## Barcode Fonts

There is a printer font installed on the printer for these standard barcodes to print:

- Code 128
- Code 39
- EAN 128
- EAN (8-digit)
- EAN (13-digit)
- Interleaved 2 of 5
- PostJPN
- PostNet
- UPC (Version A)

The VDE Barcode Options panel for each of the standard barcodes contains a combo box in which a font name can be manually entered or selected from a list of existing fonts.

When you manually enter any font name, whether a regular or barcode font, it is important to remember that the name of the font is not always the same as the name of the font file. For example, the font file name for the True Type font, Arial Bold, is arialbd.ttf, and the MB034 printer font file name is MB034.fnt.

When you enter a barcode font name in the combo box, use the font name found in the first few lines of the font header. The font name is generally in this format: /Fontname xxxxx. To locate the font name, you can edit the font file with a file editor.

Once entered, VDE creates a font call for the font and expects that it will be installed on the target print device. Therefore, if you are using the printer font named MB034, ensure that MB034.fnt is installed on the printer.

### Rendering barcode fonts

To render barcode fonts such as Code 128, Code 39, EAN, 2of5, PostNet, and UPA on the printer, all 2-D barcodes available in VDE are drawn by the rendering engine and require no printer fonts. A printer font needs to be installed to the print device. The same applies when exporting to PDF using the VDE PDF option. The barcode printer fonts need to be installed to the Adobe Normalizer fonts folder, found in one of these locations:

- On a Mac: /Applications/Xerox/VIPP/VPP/normalizer/v2vnormproc/fonts
- On a 64-bit PC: C:\Program Files (x86)\Xerox\VIPP\VDE\normalizer\fonts

Refer to [Barcodes](#) for download instructions.

### Barcode fonts available for download

VIPP® barcode printer fonts are available for download. For more information, refer to [Specialty Imaging and Barcode Font download](#).



## CODE 128

VI Design Express Barcode Options

Barcode Type  
Code 128

OK  
Cancel

Input Data  
FullName

Font Name  
MB021

Font Size  
12

100% 100%

☐ Do not apply compression

**Input Data**

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the CODE128 barcode contains alphanumeric characters. For additional information, refer to the barcode documentation.

**Font Name**

Enter a font name, or select an existing font from the drop-down list. For more information, refer to the previous Note on Barcode Fonts.

**Font Size**

Choose a font size.

**Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% may not always produce barcodes that are scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

**Do not apply compression**

Check when compression is not desired.

**CODE 39**
**Input Data**

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the CODE39 barcode contains alphanumeric characters only.

**Font Name**

Enter a font name, or select an existing font from the drop-down list. For more information, refer to the previous Note on Barcode Fonts.

**Font Size**

Choose a font size.

**Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100 %. Enter a scaling factor if required, however, using scaling factors other than 100 % cannot always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it is placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## EAN 128

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'EAN 128'. The 'Input Data' section has a dropdown menu showing 'FullName' and a text icon. The 'Font Name' is set to 'MB021'. The 'Font Size' is set to '12'. There are two scaling controls, both set to '100%'. The 'OK' and 'Cancel' buttons are in the top right corner.

### Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the EAN128 barcode can contain alphanumeric characters. For additional information, refer to the barcode documentation.

### Font Name

Enter a font name, or select an existing font from the drop-down list. For more information, refer the previous Note on Barcode Fonts.

### Font Size

Choose a font size.

### Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100 %. Enter a scaling factor if required, however, using scaling factors other than 100 % may not always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size is larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

**EAN (8-DIGIT)**

VI Design Express Barcode Options

Barcode Type  
EAN (8-digit)

Input Data  
FullName  
Font Name  
MB040V  
Font Size  
12 100% 100%

OK  
Cancel

**Input Data**

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the EAN8 barcode can contain 7 alphanumeric characters only. The seven characters are created by concatenating a 4 character left part and a 3 character right part string together. For additional information, refer to the barcode documentation.

**Font Name**

Enter a font name, or select an existing font from the drop-down list. For more information, refer the previous Note on Barcode Fonts.

**Font Size**

Choose a font size.

**Vertical and Horizontal Scaling**

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size may be larger than the graphic frame in which it was placed in the InDesign document, resulting in

barcodes that overflow the boundaries of the frame.

## EAN (13-DIGIT)

VI Design Express Barcode Options

Barcode Type  
EAN (13-digit)

Input Data  
FullName

Font Name  
MB040V

Font Size  
12 100% 100%

OK  
Cancel

### Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the EAN13 barcode can contain 12 alphanumeric characters. The twelve characters are created by concatenating the following strings:

- Character
- 1 = the number system used
- 2 thru 7 = the left part string
- 8 thru 12 = the right part string

For additional information, refer to the barcode documentation.

### Font Name

Enter a font name or select an existing font from the drop-down list. For more information, refer the previous Note on Barcode Fonts.

## Font Size

Choose a font size.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size may be larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## INTERLEAVED 2 OF 5

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'Interleaved 2 of 5'. The 'Input Data' field contains 'FullName'. The 'Font Name' is set to 'MB027V'. The 'Font Size' is set to 12. There are two scaling controls, both set to 100%.

Barcode Type  
Interleaved 2 of 5

Input Data  
FullName

Font Name  
MB027V

Font Size  
12

IT 100% IT 100%

OK  
Cancel

## Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the 2OF5 barcode must contain numeric characters, 0 through 9 only.

## Font Name

Enter a font name, or select an existing font from the drop-down list. See the previous Note on Barcode Fonts for more information.

## Font Size

Choose a font size.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% cannot always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size may be larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## POSTJPN

## Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the POSTNET barcode must contain 5, 7, or 9 numeric characters. Lengths of 10 and 12 are also supported when a dash character is inserted in the 6th position. This supports Zip, Zip + 4 or Zip+4+DPBC.

## Font Name

Enter a font name, or select an existing font from the drop-down list. See the previous Note on Barcode Fonts for more information.

## Font Size

Choose a font size.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor, if necessary. However, using scaling factors other than 100% can produce barcodes that cannot be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size can be larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## POSTNET

The image shows a dialog box titled "VI Design Express Barcode Options". It contains the following fields and controls:

- Barcode Type:** A dropdown menu with "PostNet" selected.
- Input Data:** A text field containing "FullName" and a small icon to the right.
- Font Name:** A dropdown menu with "MB043" selected.
- Font Size:** A text field with "12" and a small icon to the right.
- Vertical Scaling:** A dropdown menu with "100%" selected.
- Horizontal Scaling:** A dropdown menu with "100%" selected.
- Do not transform data:** An unchecked checkbox.
- Buttons:** "OK" and "Cancel" buttons in the top right corner.

## Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string via the keyboard. The string passed to the POSTNET barcode must contain 5, 9, or 11 numeric characters. Lengths of 10 and 12 are also supported when a dash character is inserted in the 6th position. This supports Zip, Zip + 4 or Zip+4+DPBC.

## Font Name

Enter a font name, or select an existing font from the drop-down list. See the previous Note on Barcode Fonts for more information.



## Font Size

Choose a font size.

## Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100%. Enter a scaling factor if required, however, using scaling factors other than 100% may not always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size may be larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## Do not transform data

Click this box when you do not want to transform your barcode data.

## UPC (VERSION A)

The screenshot shows the 'VI Design Express Barcode Options' dialog box. The 'Barcode Type' is set to 'UPC (Version A)'. The 'Input Data' field is set to 'FullName'. The 'Font Name' is set to 'MB011V'. The 'Font Size' is set to 12. There are two scaling controls, both set to 100%. The 'OK' and 'Cancel' buttons are in the top right corner.

## Input Data

Enter data, or select an existing Database field, XML tag, or a Transform Rule used to concatenate multiple input strings into a larger single string from the drop-down list, or enter a string using the keyboard. The string passed to the UPCA barcode must contain 11 numeric characters only. The eleven characters are created by concatenating the following strings:

- Character
- 1 = the number system used
- 2 through 6 = specifies the vendor number

- 7 through 11 = specifies the product number

### Font Name

Enter a font name or select an existing font from the drop-down list. For more information, see the previous Note on Barcode Fonts.

### Font Size

Choose a font size.

### Vertical and Horizontal Scaling

Select a percentage by which to scale the size of the barcode, if necessary. The default is 100 %. Enter a scaling factor if required, however, using scaling factors other than 100 % cannot always produce barcodes that can be scanned correctly due to out of specification sizes or proportions. When using large scale values the resulting barcode size may be larger than the graphic frame in which it was placed in the InDesign document, resulting in barcodes that overflow the boundaries of the frame.

## OMR

The general steps for inserting the OMR into the design are outlined here:

1. To create a graphic box use the InDesign™ tool, or use an existing graphic box in the design. Ensure that the box is the approximate size of the printed OMR and in the approximate location where the OMR is to appear.

2. Right-click the frame, then choose **VDE OMR Options**.

VI Design Express OMR Options

☒ Bars    ☐ Datamatrix

☒ Front    ☐ Back

Max number of sheets in envelope:

Fold after number of sheets:

Annexes code Selection:  ⓘ

Annexes code

Annex 1	Annex 2	Annex 3	Annex 4	Annex 5	Annex 6	Annex 7	Annex 8	Annex 9	Annex 10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Annexes code:

The following fields are available:

- Bars: Select **Bars** radio button for OMR bars.
- Datamatrix: Select **Datamatrix** radio button for OMR Datamatrix.
- Front: Select **Front** to place the OMR code on the front page.
- Back: Select **Back** to place the OMR code on the back page.
- Max number of sheets in envelope: Select one of the following options.

1—255	Feed envelope after that number of pages
0	No feed for the next pages

- Fold after number of sheets: Select one of the following options.

1—255	Intermediate fold after that number of pages
0	No intermediate fold for the next pages

- Annexes code: Summing powers of 2 of each selected Annexe checkboxes make integer. Each of the Annexe checkboxes represents a bar intended to trigger the insertion of an Annexe sheet from the corresponding inserter tray.

3. Select fields as needed, then click **OK**.

The OMR Configuration tab is set for the OMR code. For more information, refer to [Setting VDE Preference Options](#).



Note: A placeholder image is displayed on the screen because OMR cannot be dynamically created within InDesign. The size of the placeholder image can differ from the exact size or position of the printed OMR. To verify the output, view the VPC file, or print a test page on a VIPP® Pro-enabled printer.

## Variable Layers

VDE rules can be used to turn variable layers on or off. Variable layers are used at the page level, where elements can be turned on, viewable or off, non-viewable, based on the result of the variable layer rule. Elements can be static objects or variable objects.



Note: The more layers used in an application the more complex the job can become during the export function and the creation of the VPC file. This translates into more time required to create the VPC file. The time needed is dependent on the processing power of the Mac or PC used.

Excessive use of layers, that contain variable elements, on a page can affect performance. Reducing the number of layers called, actually used for each page can improve the performance of the VDE export process. For example, while 10 or more layers may be possible for a page, if only three of the ten layers are called, using conditional processing, performance is significantly improved.

An option specifying the minimum and maximum amount of layers called on any page in the application is required during the export phase. Providing the correct minimum and maximum value in this panel can greatly reduce the processing time required to process the variable layers while building the VPC file.

The visibility of a layer is controlled by creating a visibility object, either a Visibility Rule or a visibility field from the data file assigned to that layer.

When a Rule is created, it is added to the list of data objects displayed on the VDE panel. The Rules type is set to visibility in the Rule builder panel before applying the Rule to a layer. A setting of ON will make the layer visible while a setting of OFF will hide the layer.

For more information, refer to [Rules](#).

## PDF Fillable Form Fields

An InDesign document containing PDF fillable form fields can be used in a VI workflow where the PDF form generated from VDE contains unique data for each record. The data extracted from such a PDF form can be used for other variable print workflows. VDE supports variable data for the following interactive objects: Reset Button, Submit Button, Check Box, Combo Box, List Box, Radio Button, Text Field, and Signature Field.

When you create an InDesign document, PDF form fields are created initially using the InDesign Buttons and Forms GUI panel. To add variable data and VI-specific options, and to access the VDE PDF Form Field Options dialog box, right-click a selected form field.



Note: Events and Actions from the Buttons and Forms dialog box are not supported by VDE. To choose an available action for the specific form field, from the VDE PDF Form Field Options dialog box, select the options. The Appearance States for push buttons, radio buttons, and check boxes are not supported, but the highlighted or selected appearance state is used to provide graphic attributes for the form fields in the generated VIPP® job.

The VDE GUI panel displays the following options, based on the type of fillable form field selected:

### Button:

Action: Specifies the behavior of the button. The Reset action reverts all form fields to initial values. The Submit action sends the extracted data to either a web server or a recipient using email. The Print action sends the form for printing directly from the form button click.

URL: Address to the web server or the email recipient.

URL Type: Website or Email.

File Format: Specifies the file format generated. Options are Form Data Format (FDF), Printable Data Format (PDF), XML Form Data Format (XFDF), or HTML Data format (HTMLDF).

Button Label: Entered text is shown on the button.

Button Label Color: Color of text for button label.

Border Style: Border style outlining the button.

Button Label Font: List of available font styles for the label.

Button Label Size: Font size of the button label.

### Check Box:

Tick Mark: Symbol shown for check box when selected. The desired symbol is selected in the Caption Map table.

Mark Color: Color of the tick mark shown inside the check box.

Border Style: Border style outlining the check box.

Selected by default variable: Variable specifies the initial state of the check box. The value of the selected variable must return either 1 or 0, where 1 indicates that the check box is selected and 0 indicates that the check box is not selected.

### Combo Box:

Use VDE list items: If selected, the list items are specified using Export Value and Display Value. The Export Value is the value exported when you select the Display Value. The Display Value appears in the exported PDF. To add an Export Value and Display Value pair, select the **Plus** icon (+). To remove an existing Export Value and Display Value pair, select the **Minus** (-) icon. The VDE list supersedes the list items in the InDesign Buttons and Forms dialog box.

Variable Default Selection: This option sets the initial variable for the Combo Box.

List Items Color: Color of the list items text.

Border style: Border style outlining the Combo Box.

Text Alignment: Alignment of text shown in Combo Box.

Font: List of available font styles for the list items text.

Combo box text field is editable: If selected, this option allows user to enter a text value instead of a selecting a value from the predefined list.

#### List Box:

Use VDE list items: If selected, list items are specified using Export Value and Display Value. The Export Value is the value exported when the Display Value is selected. The Display Value is displayed in the exported PDF. To add an Export Value and Display Value pair, select the **Plus** icon (+). To remove an existing Export Value and Display Value pair, select the **Minus** (-) icon. The VDE list supersedes the list items in the InDesign Buttons and Forms dialog box.

Variable Default Selection: This option sets the initial variable for the List Box.

List Items Color: Color of the list items text.

Border style: Border style outlining the List Box.

Text Alignment: Alignment of text shown in the List Box.

Font: List of available font styles for the list items text.

#### Radio Button:

Selection Mark: Symbol shown for radio button, when selected. To select a symbol, access the Caption Map table, then select a symbol.

Mark Color: Color of selection mark shown inside the radio button.

Border Style: Border style outlining the radio button.

Selected by default variable: Variable specifies the selection state of the radio buttons in a group. The value of the selected variable must return either 1 or 0, where 1 indicates that the radio button is selected, and 0 indicates that the radio button is not selected. Only one of the radio buttons in a group can have a variable with a value of 1, the selected state. If more than one radio button in the group has the selection state set to 1, the VIPP® code generated for the job selects only one of the radio buttons.

#### Text Field:

Initial Text: Initial text shown in field.

Text Color: Menu for a list of text colors.

Border style: Border style outlining the text field.

Text Alignment: Alignment of text shown in text field.

Text Split: If greater than 1, restricts number of characters entered.

Font: List of available font styles for the text.

#### Signature Field:

Border style: Border style outlining the signature field.

#### Graphic Attributes for PDF Form Fields

The following InDesign graphic attributes are supported for the PDF fillable form fields:

- Border Stroke Width, Border Stroke Color and Fill/Background Color.
- For the Reset and Submit buttons, highlight or select one of the three graphic attributes in the Buttons and Forms GUI dialog box. For Appearance States, select Normal, Rollover, or Click. Set the required width and colors for the selected button state.

- For the Check Boxes and Radio Buttons, highlight or select one of the six graphic attributes in the Buttons and Forms GUI dialog box. For Appearance States, select Normal On, Normal Off, Rollover On, Rollover Off, Click On, or Click Off. Set the required width and colors for the selected check box state.

When exporting the document to VPC or PDF, the highlighted or selected Appearance States settings are used in the VIPP® job to select its associated graphic attributes and apply them to the form field.



Note: Rollover and Click state interactive behaviors are not supported in VDE and are not reflected in the PDF generated from the VIPP® job.



# VDE Text Pattern Swatches

This chapter contains:

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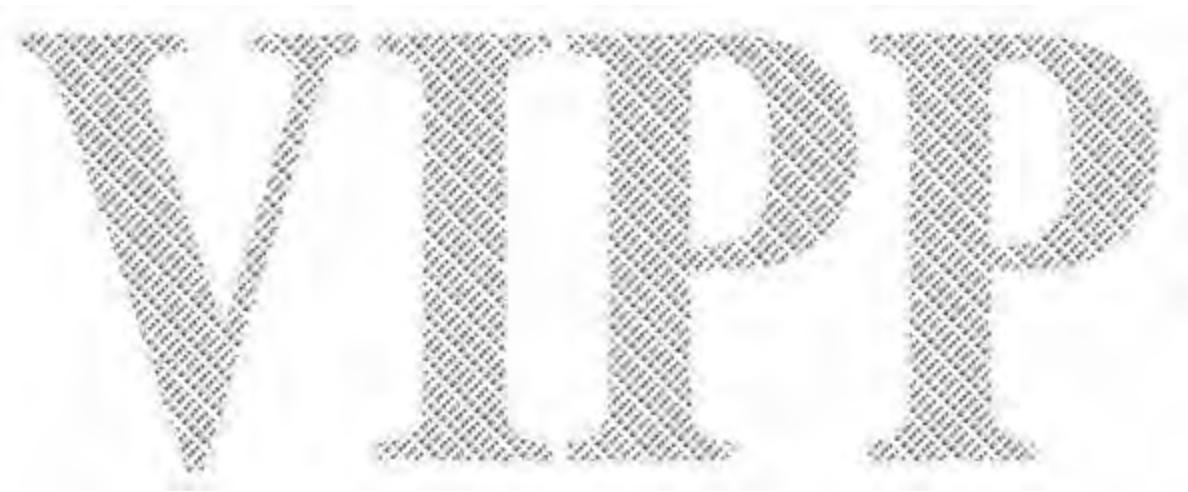
Using SI Effects in a Text Pattern Swatch..... 201

The VDE Text Pattern Swatch option enables the user to define a swatch color that contains a repeating text pattern. Static or variable text can be selected and color can be assigned to both the text and background of the Text Pattern Swatch. Once a Text Pattern Swatch has been defined, the user can select it as the fill color to an object or path.



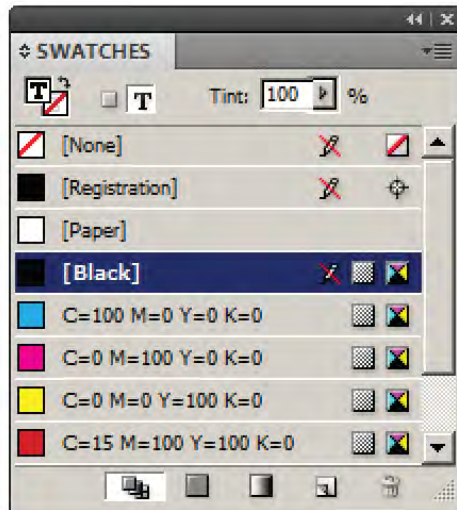
The image above shows two VDE Patterned Swatch objects. The top object uses a patterned swatch defined with cyan text rotated at 15 degrees with a yellow background. The bottom object is painted using a Text Pattern swatch defined with cyan text rotated at 45 degrees with no background or transparent color.

In addition to using standard fonts supported by VDE, Xerox Specialty Imaging fonts and colors can also be used to create unique effects. For example, you can create a text pattern swatch using micro text.

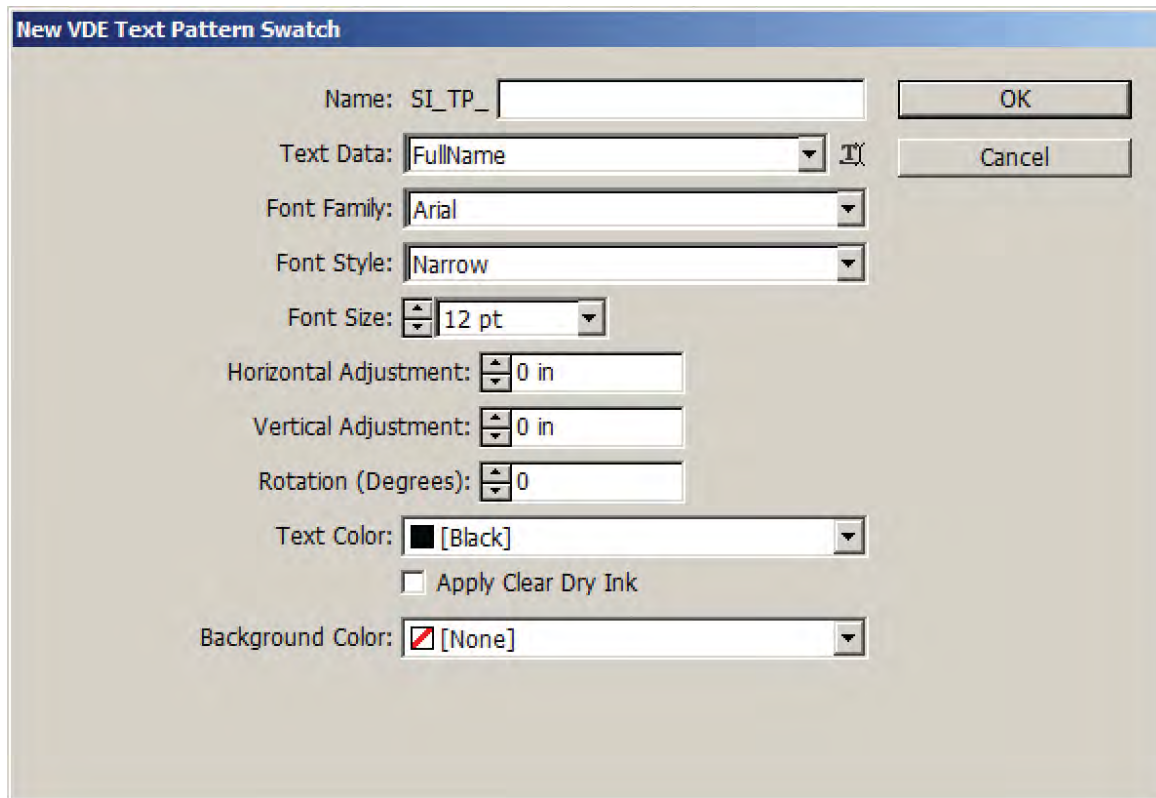


## Creating a Text Pattern Swatch

Color swatches are created using the Swatch Panel menu to access the New VDE Text Pattern Swatch... menu. Until the swatches are created, there are no selectable VDE Text Pattern Swatches available to fill objects. A Normal VDE Text Pattern switch is one that does not contain any references to Xerox Specialty Imaging.



To define a VDE Text Pattern Swatch, select **New VDE Text Pattern Swatch...** to open the Swatch Options panel.



Select the appropriate options in this panel to create a VDE Text Pattern Swatch. Depending on the selections made, some options can be greyed out. Each option is described as follows:

## Name

The user-defined name of the VDE Text Pattern. Ensure that the name does not exceed 32 characters and does not contain any special characters. VDE adds the syntax *SI\_TP\_* to the beginning of the user-defined name. This syntax is used internally to distinguish between normal swatch and text pattern swatches.

## Text Data

The text to be used in the repeating pattern. The text can be static text or variable text, or a combination of both. When combining static and variable text, it is necessary to create a Text Transform field concatenating the static and variable text, and to refer to this field when selecting text for this entry.

## Font Family

The name of the font family to be used.

## Horizontal Adjustment

A horizontal adjustment in points for each repeating line of text.

## Vertical Adjustment

A vertical adjustment in points for each repeating line of text.

## Rotation Degrees

The text rotation value.

## Text Color

For normal patterned ink effects this option is the text color, selected from the swatches defined. When using Specialty Imaging fonts, this option is greyed out, and the background color option shows the available Specialty Imaging color options.

## Background Color

For normal patterned ink effects, this option is the background color, selected from the swatches defined. The option [None] results in a transparent background. When using Specialty Imaging fonts, this option shows the available Specialty Imaging color option.

In the earlier example, a VDE Text Pattern Swatch was designed and called `PlainColorBackground`. The data field `FirstName` is selected as the repeating text object. Arial 12pt Regular is the target font selection. Horizontal and vertical adjustments of 0.0625 inches are selected and the text rotation angle is set to 15 degrees. The text color is set to cyan (CMYK), and the background color is set to yellow (CMYK).

Click **OK** to add the new swatch color to the Swatch Panel. At this point, the swatch becomes available and can be used to fill an object on the page, just like any other swatch color.

To apply this text pattern swatch to an object, first create or highlight the object, then apply the swatch color as normal.

Text patterns displayed on the InDesign screen are representations of applied text patterns. Print the application to see the actual effect. Using the options listed, the text patterned swatch fills an object, as follows.



The following example illustrates different swatch option selections. Notably, the Text Data is set to a static text string `Do Not Copy` and Background Color is set to [None]. When this swatch color is applied to a frame and placed over an

object, the results are similar to the following image:



The object was placed over a purple box to show the transparent effect of the VDE Text Pattern. The text `Static No Backfill` is a separate text frame placed over the object that was filled with the text pattern. Do not insert text, images, or other objects as part of the VDE Text Pattern frame. Otherwise, unpredictable results can occur.

## Using SI Effects in a Text Pattern Swatch

Xerox Specialty Imaging effects can be combined with VDE Text Patterns. There are six Specialty Imaging options to select from. Descriptions of these effects and sample Swatch Option definitions are found in these sections:

- [Artistic Black VDE Text Pattern Swatch](#)
- [Fluorescent VDE Text Pattern Swatch](#)
- [Infrared VDE Text Pattern Swatch](#)
- [Micro Text VDE Text Pattern Swatch](#)
- [GlossMark and Correlation Mark Text VDE Text Pattern Swatch](#)

### ARTISTIC BLACK VDE TEXT PATTERN SWATCH

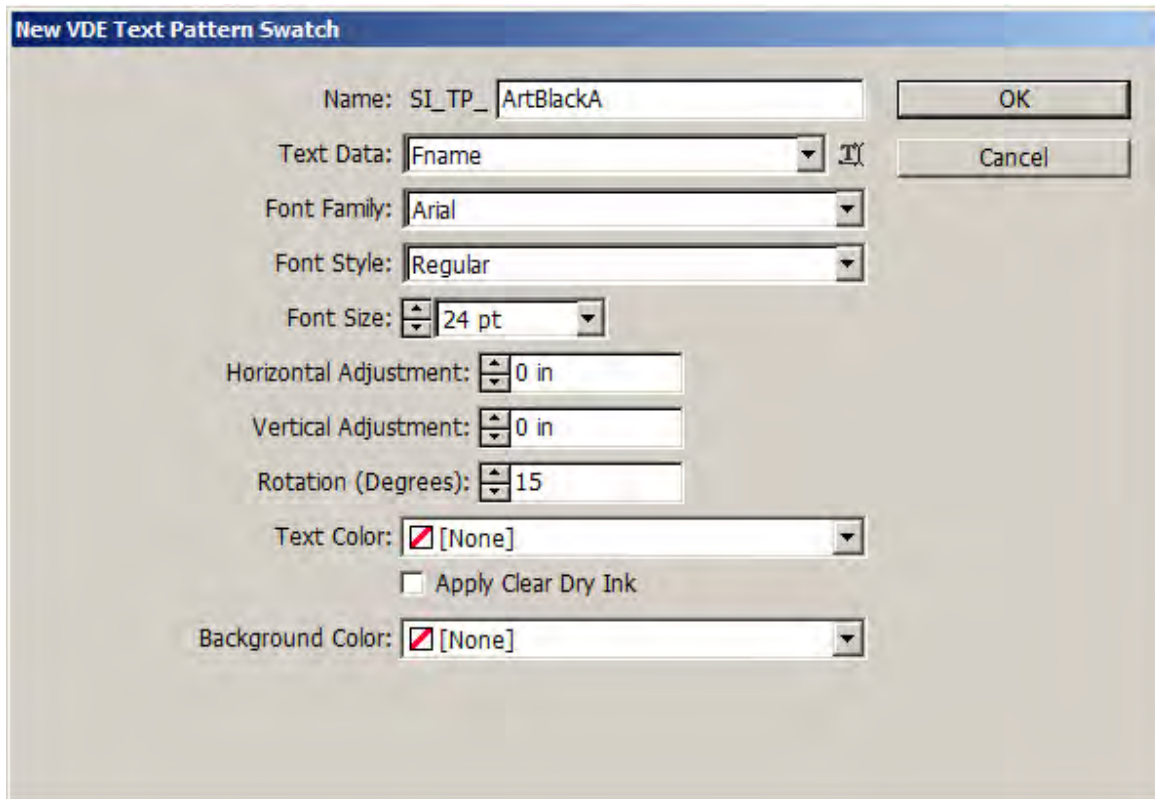
An Artistic Black VDE Text Pattern provides a high gloss and matte text pattern. The repeating text pattern can be observed by tilting the page at an angle.



There are two available options for Artistic black:

- A high gloss background with a matte text pattern
- A matte background with a high gloss text pattern

Before the VDE Text Pattern swatch can be created, add either the SI\_ARTBLACK\_A or SI\_ARTBLACK\_B swatch. These swatches are found in the VDE Specialty Imaging swatch file. For more information on how to add swatches to the Swatch panel, refer to [Creating a Text Pattern Swatch](#). After the swatch is added, the swatch can be used to define the background color in the VDE Text Pattern Swatch option panel.



In this example, the user-defined name is ArtBlackA, the Text Data is the data field *FirstName*. The font used is Arial Regular at 24 points. No optional horizontal or vertical adjustments were assigned. However, a 15-degree text rotation was selected. To define a VDE Text Pattern swatch using a Specialty Imaging effect, for Text Color select **None**. Set the Background Color to **SI\_ARTBLACK\_A**, or **SI\_ARTBLACK\_B**.

After you define the settings, to populate the swatch panel with this new color, click **OK**.



Note: Text patterns displayed on the InDesign Screen are representations of applied text patterns. To see the actual effect, print the application. Do not insert text, images, or other objects as part of the VDE Text Pattern frame, because unpredictable results can occur.

## FLUORESCENT VDE TEXT PATTERN SWATCH

Fluorescent VDE Text Pattern effects create a text fill effect using the Xerox Specialty Imaging Fluorescent effect. For more information on the Specialty Imaging Fluorescent effect review [Using Specialty Imaging Effects](#).

This effect will fill an object with a Fluorescent color. When a UV light source is used, the repeating text pattern will become visible.





Before the VDE Text Pattern Swatch can be created, add a Fluorescent color from the Xerox Specialty Imaging Swatch file. Refer to [Using a Specialty Imaging color swatch](#) for more information.

The Swatch Options are basically the same as the Artistic Back text swatch options detailed previously. Select any font VDE supports and assign values for vertical and horizontal adjustments if needed. Leave the text color set to None and the Background color will be set to the Fluorescent swatch color you previously loaded.

Once the settings are defined, click **OK** to add this swatch to the swatch list. The new swatch can now be used to fill an object.

Rotating any Specialty Imaging effect may cause artifacts such as white lines or noise in the effect. If this happens try adjusting the rotation value +/- 5 degrees.



Note: Text patterns displayed on the InDesign Screen are representations of applied text patterns. The application must be printed to see the actual effect. Do not insert text, images or other objects as part of the VDE Text Pattern frame or unpredictable results may occur.

### INFRARED VDE TEXT PATTERN SWATCH

Infrared VDE Text Pattern effects create a text fill using the Xerox Specialty Imaging Infrared effect. For more information on the Specialty Imaging Infrared effect review [Using Specialty Imaging Effects](#).

This effect will fill an object with an Infrared color. When an IR light source is used, the repeating text pattern will become visible.



Before the VDE Text Pattern Swatch can be created, add an Infrared color from the Xerox Specialty Imaging Swatch file. Refer to [Using a Specialty Imaging color swatch](#) and to [Designing documents with Infrared color](#) for more information.

The Swatch Options are basically the same as the Fluorescent text swatch options. You select any font VDE supports and assign values for vertical and horizontal adjustments if needed. You must leave the text color set to [None] and the Background color should be set to the Infrared swatch color you previously loaded.

Once the settings are defined, click **OK** to add this swatch to the swatch list. The new swatch can now be used to fill an object.

Rotating any Specialty Imaging effect may cause artifacts such as white lines or noise in the effect. If this happens try adjusting the rotation value +/- 5 degrees.



Note: Text patterns displayed on the InDesign Screen are representations of applied text patterns. The application must be printed to see the actual effect. Do not insert text, images or other objects as part of the VDE Text Pattern frame or unpredictable results may occur.

## MICRO TEXT VDE TEXT PATTERN SWATCH

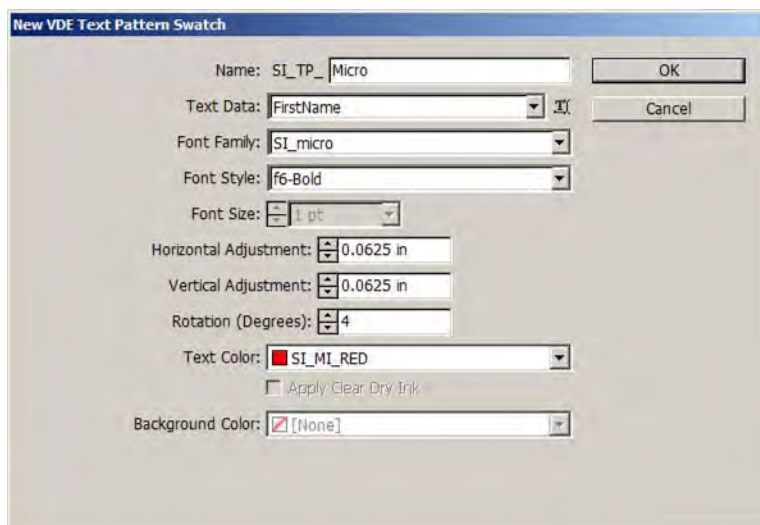
Micro Text VDE Text Pattern effects create a text fill effect using the Xerox Specialty Imaging Micro Text font. For more information on the Specialty Imaging Micro Fonts, refer to [Using Specialty Imaging Effects](#).

This effect fills an object with Micro Text, which has a text size below 1 pt. This effect can be used to fill any type of object and is particularly effective when used as a text fill pattern.



Before the VDE Text Pattern Swatch can be created, add a Micro Text color from the Xerox Specialty Imaging Swatch file. For more information, refer to [Using a Specialty Imaging color swatch](#) and to [Designing documents with MicroText fonts](#). There are seven colors to select from, SI\_MI\_BLACK, SI\_MI\_RED, SI\_MI\_BLUE, SI\_MI\_GREEN, SI\_MI\_CYAN, SI\_MI\_MAGENTA and SI\_MI\_YELLOW.

When defining a Micro Text VDE Text Pattern, select one of the eight Specialty Imaging MicroText fonts.



Selecting a Micro Text font limits the Text Color selection to one of the seven supported colors for Micro Text. The Background Color option is greyed out.

The Font Size option is greyed out for Micro Text, as no user option is available.

Rotation and vertical and horizontal adjustments can be set as required.

After the settings are defined, to add this swatch to the swatch list, click **OK**. The new swatch can now be used to fill an object.

Additionally, the new swatch can be used as a text fill. For example, type a text string, use InDesign font settings to



widen the text characters, then use the Micro Text VDE Text Pattern to fill the text characters.



Note: Text patterns displayed on the InDesign Screen are representations of applied text patterns. Print the application to see the actual effect. Do not insert text, images, or other objects as part of the VDE Text Pattern frame. Otherwise, unpredictable results can occur.

## GLOSSMARK AND CORRELATION MARK TEXT VDE TEXT PATTERN SWATCH

GlossMark Text and Correlation Mark Text VDE Text Pattern effects create a text fill effect using the Xerox Specialty Imaging GlossMark or Correlation Mark Text font. For more information on the Specialty Imaging GlossMark or Correlation Mark Fonts review [Using Specialty Imaging Effects](#).

This effect will fill an object with GlossMark or Correlation Mark Text. This can be used to fill an object on the page.



Before the VDE Text Pattern Swatch can be created, add a GlossMark or Correlation Mark Text color from the Xerox Specialty Imaging Swatch file. Refer to [Using a Specialty Imaging color swatch](#), to [Designing documents with GlossMark Text](#), and to [Designing documents with Correlation Mark](#) for more information. Select one of the GlossMark or Correlation Mark text fonts from the font list. The *Text Size* parameter is grayed out as this is set by the selected font.

Set the Font Family option to one of the available Specialty Imaging GlossMark or Correlation Mark text fonts. In the example below SI\_NeuClassic-Bold-GL-24 has been selected.

**New VDE Text Pattern Swatch**

Name: SI\_TP\_ Gloss\_0

Text Data: FirstName

Font Family: SI\_NeuClassic-GL

Font Style: Bold-24

Font Size: 24 pt

Horizontal Adjustment: 0.125 in

Vertical Adjustment: 0.1875 in

Rotation (Degrees): 10

Text Color: [None]

☐ Apply Clear Dry Ink

Background Color: SI\_GL\_Maroon

OK Cancel

The Background Color option will display available SI colors based on the font type such as GlossMark or Correlation. The user must have previously loaded the colors into the swatch panel from the VIPP® Swatch file, as described in [Creating a Text Pattern Swatch](#).

Set rotation and vertical and horizontal adjustments as required.

Once the settings are defined, click **OK** to add this swatch to the swatch list. The new swatch can now be used to fill an object.



Note: Text patterns displayed on the InDesign Screen are representations of applied text patterns. The application must be printed to see the actual effect. Do not insert text, images or other objects as part of the VDE Text Pattern frame or unpredictable results may occur.

# Xerox Specialty Inks

This chapter contains:

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Use the Xerox Specialty Inks feature to design VIPP® based variable data applications targeted to print on VIPP®-enabled Xerox print devices that support the Xerox Specialty Inks capability.

VDE implementation allows the application of Xerox Specialty Inks to:

- static and variable text either the text outline, text fill or both
- static or variable images
- paths drawn over an object.

The VDE feature allows application of Xerox Specialty Inks using a mouse click. Images do not have to be edited, and Spot Colors or Overprint do not have to be defined, prior to using Xerox Specialty Inks.

When using Xerox Specialty Inks on variable objects, such as text and images, the area of Xerox Specialty Inks will adjust based on the variable text or image size.

## Xerox Specialty Inks on unsupported devices

When an application, in which Xerox Specialty Inks is applied using VDE, is sent to a device that does not support Xerox Specialty Inks, gray shading may appear over the areas where the Xerox Specialty Inks was applied. To print the application on a device that does not support Xerox Specialty Inks, first remove that feature from the application.

## Proofing and Xerox Specialty Inks in PDFs

When proofing from VDE, the PDF will display the Xerox Specialty Inks adornment. When using the VDE PDF option to generate a production PDF file, the PDF will print with Xerox Specialty Inks on a device that is enabled with CDI. When the PDF is printed at a printer that is not enabled with CDI, gray shading may appear over the areas where Xerox Specialty Inks was applied. If you must print the application on a device that is not Xerox Specialty Inks enabled, you should edit the application to disable the Xerox Specialty Inks effects.

## Xerox Specialty Inks

Xerox Specialty Inks is an option on Xerox DC1000/800 devices, supported by FFPS, EFI and DFE's. When designing applications using Xerox Specialty Inks with prior versions of the VI Design Express (and VIPP® Pro Publisher) caching was turned off. This was done because caching with Xerox Specialty Inks is not currently supported by FFPS. The VI Design Express has been modified to test the DFE it is running on, and only turn caching off if running on an FFPS. This allows caching to be used on EFI.

## Clear, Gold and Silver caveats

Xerox Specialty Inks are applied either as a Clear overprint, which allows the original text color or image to show through, or, in the case of Gold or Silver, as a solid color.

Set the underlying text color for either outline, fill or both to [none] or [Paper] Swatch color when using Gold or Silver as the text outline, text fill or both. If this is not set, the underlying text color will overprint the Xerox Specialty Inks selection.

It is not recommended to use Gold or Silver to fill an image as it will paint over the image.

The following image displays a page layout in Adobe InDesign, with variable data applied using VDE. The document includes static and variable text, static and variable images as well as a round object.



These sections describe how to apply Xerox Specialty Inks to elements in the page layout shown:

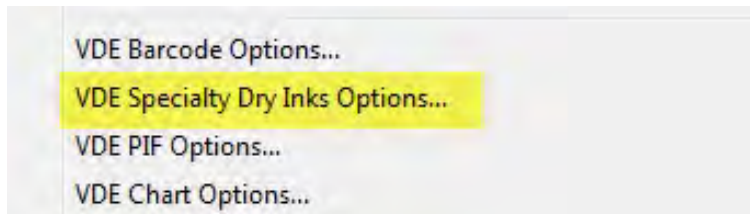
- Static and Variable Text
- Static and Variable Images
- Objects
- Paths

## Static and Variable Text

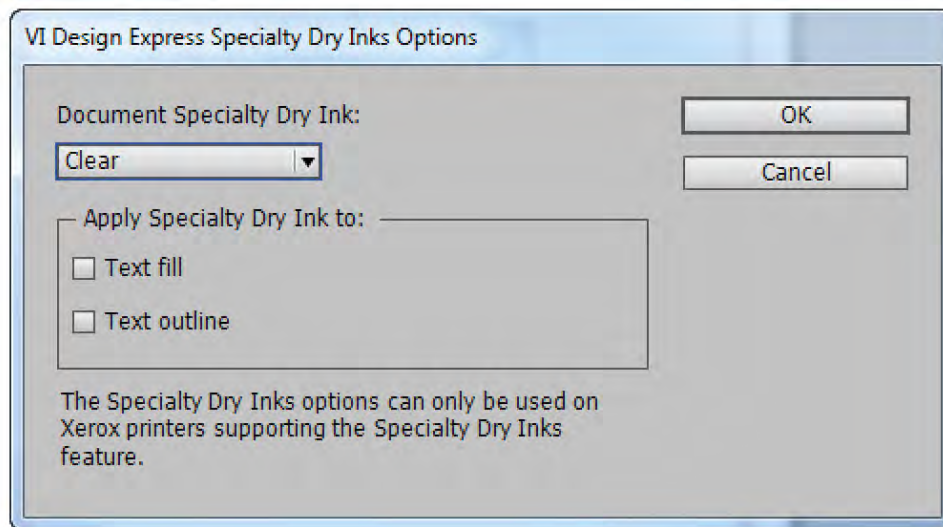
The requirement for this page layout is to apply Xerox Specialty Inks to the static text and to the variable text, which is the amount discounted and the first name *David* as shown in the image. These variable text elements change from record to record.

Xerox Specialty Inks can be applied to all the text, to a line in the text, or to a word or a character in the text. The process to apply Xerox Specialty Inks to static or variable text is the same. When you apply the specialty inks to variable text, select the whole variable.

To highlight the text to apply Xerox Specialty Inks, use the Text Tool. You can select an individual character, word, line, or the entire text string. To view the menu, right-click the mouse, then select **VDE Specialty Dry Inks Options**.



The context-sensitive VI Design Express Specialty Dry Inks Options screen appears:



Select the Specialty Dry Ink option that is installed on the target device.



Select the required option. In most cases, the text is filled with Specialty Dry Ink to create the maximum effect on the printer. You can apply Specialty Dry Ink to the text, to the text outline only, or both. Select the appropriate check boxes for your job.



Note: When you use the Clear option, the clear toner paints over the underlying color to provide a shiny coat to the text outline, text fill, or both, depending on the option that you select. For the Gold or Silver option, set the underlying text outline, fill, or both, depending on the option that you select for Paper or None. Failure to set the underlying text outline, fill, or both results in the text color knocking out the Gold or Silver color selected.

When the *Highlighted Fields* option is selected in the VDE panel, text that has Xerox Specialty Inks applied is adorned with a pink box as shown in the following example.



- A pink box with no outline indicates that a text fill has been applied.
- A pink box with no fill indicates that a text outline has been applied.
- A pink box with fill and outline indicates that both text fill and outline have been applied.

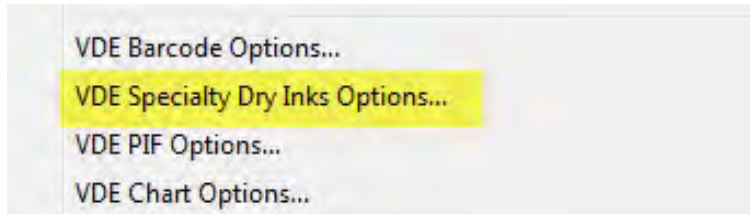
This process can be repeated for all text on the page that needs Xerox Specialty Inks applied.

## TEXT LIMITATIONS

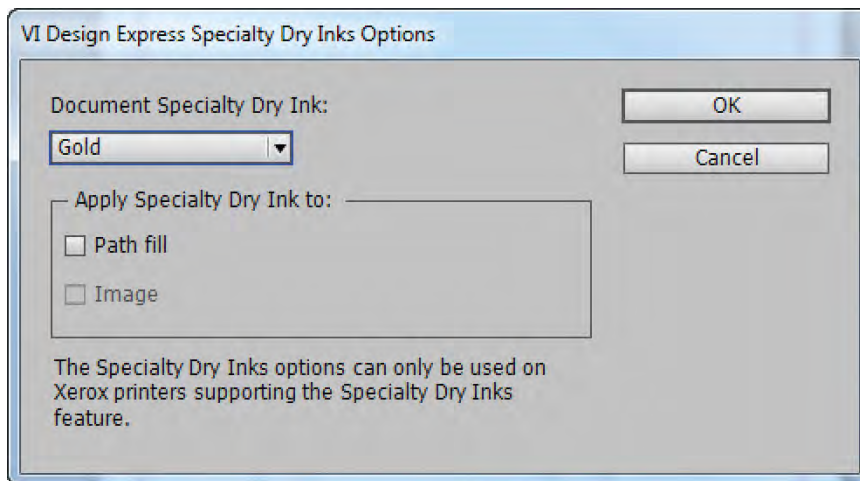
When you apply Xerox Specialty Inks to static or variable text, the text frame cannot contain graphical elements. Graphical elements include hairlines, lines, and shapes that are inserted or linked in the text frame. For the text, you cannot use Tint, Gradient, or Mixed Ink swatches.

## Static and Variable Images

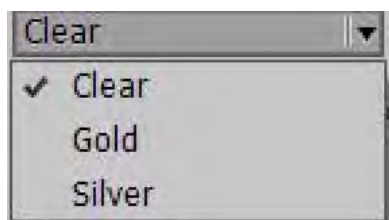
To apply Xerox Specialty Inks to images, use the Selection tool or arrows. To view the menu, right-click the mouse, then select **VDE Specialty Dry Inks Options**.



The context-sensitive VI Design Express Specialty Dry Inks Options screen appears.



Select the Specialty Dry Ink color that is installed on the target device.



To apply Specialty Dry Ink over the image, select the check box for **Image**. If the image is variable it is possible that the image size changes from record to record. The Xerox Specialty Inks area that VDE assigns changes, based on the image size.

The Path fill option fills the entire graphic frame. Although Path fill is an available option, it is not used typically. A pink shading is applied over the image to signify that Xerox Specialty Ink has been applied to the area.



Note: To control the size of variable images in your application, refer to [Fitting an image to a frame.](#)

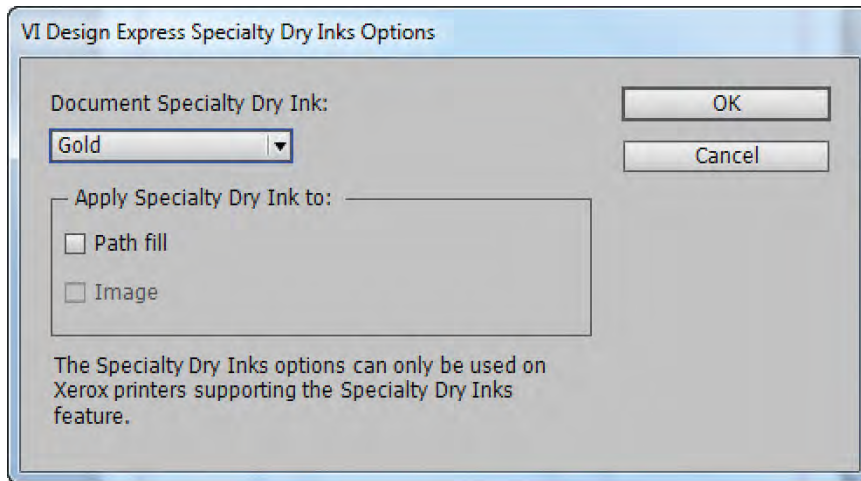


## Objects

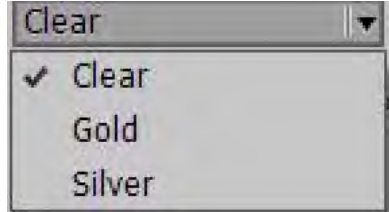
Xerox Specialty Inks can be applied to objects, such as circles, squares, and so on, and to hand-drawn paths.

Objects are handled in a similar manner to images. In the original page layout, Xerox Specialty Ink is applied to the red circle to bring attention to the discount percentage amount.

Use the selection tool to select the circle object. To view the context-sensitive VI Design Express Specialty Dry Inks Options screen, right-click, then select the VDE Specialty Dry Inks option.



Select the Specialty Dry Ink color that is installed on the target device.



To fill the circle object with Xerox Specialty Ink, select the check box for **Path fill**. The object is filled with a light pink adornment to indicate that the area has Xerox Specialty Inks applied.



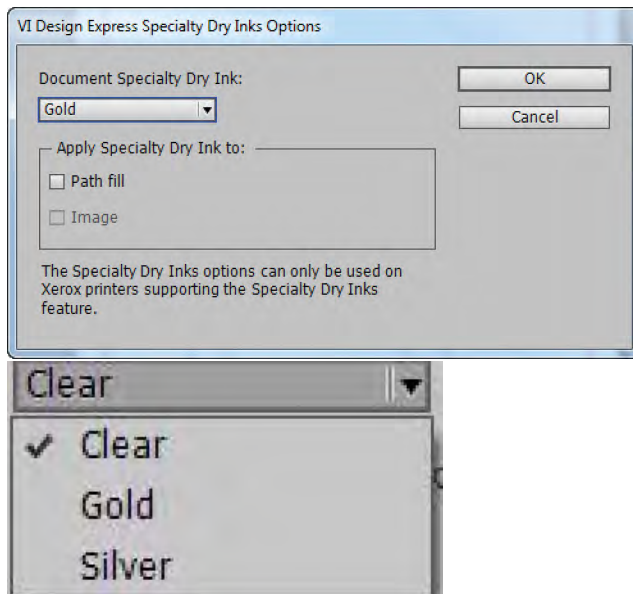
## Paths

Paths are hand-drawn shapes, created typically using a tool such as the Pencil tool. This method to apply Xerox Specialty Inks can be used when there is no simple shape to use or you want to highlight only a certain area of an image.

In the original document layout, Xerox Specialty Ink is applied to the computer in the blue banner image on the page. The Pencil tool is used to draw a path that is then filled with VDE Xerox Specialty Inks. The image shows the path created by using the Pencil tool. The computer image has been traced with the Pencil tool to create an area that is filled with Xerox Specialty Inks.



Select the Specialty Dry Ink color that is installed on the target device.



Select the object. To view the VDE Specialty Dry Inks Options screen, right-click. Select the **Path fill** option. The computer image is adorned with the Xerox Specialty Ink coating and the adornment Xerox Specialty Inks: Fill appears.

### Specialty Inks and text color

Xerox Specialty Inks can be applied to the text color of a Text Pattern swatch. For more information, refer to [Creating a Text Pattern Swatch](#).

### Specialty Inks and underlying detail in a design

When you use Clear as the color option, the original color of the text, path, or image is visible under a layer of Clear toner. When you use Gold or Silver as the color, any underlying detail is lost and replaced with the Gold or Silver color.

For text, the underlying text outline, text fill, or both, or whichever option is selected, for the swatch color, select **none** or **Paper**.

## The Completed Page Layout

The following image shows the completed page layout in Adobe InDesign, and includes the Xerox Specialty Inks adornments over the static and variable elements on the page.






# Variable Color

This chapter contains:

Applying a Variable Color to a Frame Stroke or Frame Fill ..... 218

Applying a variable color to a monochrome image..... 221

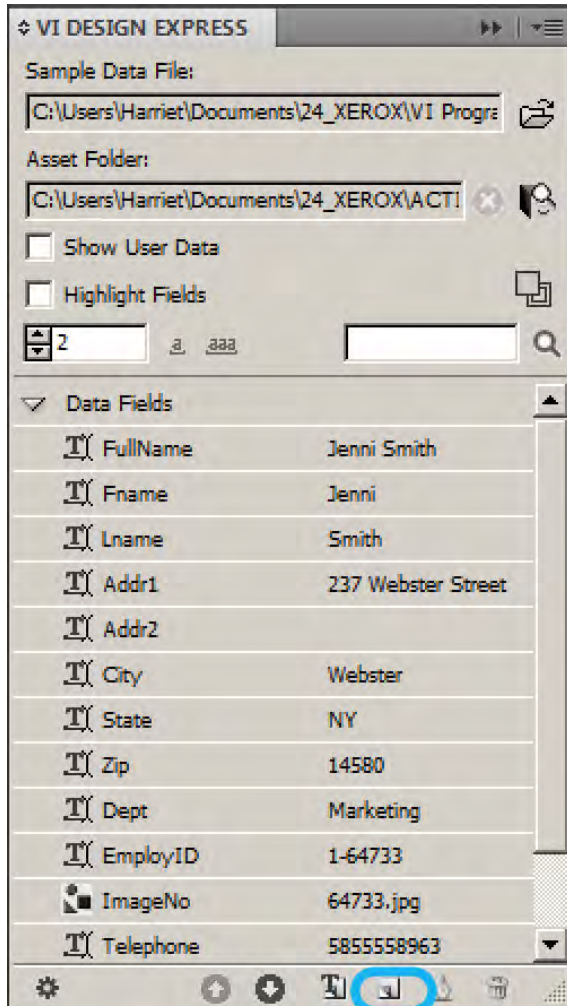
Variable color can be applied to a frame fill, frame stroke or to a monochrome image using the Color rule or by applying a variable color field to the frame or monochrome image. When using variable color, the variable color name must be available in the InDesign Swatch panel.

 Note: Specialty Imaging colors are not available to the Variable Color rule.

## Applying a Variable Color to a Frame Stroke or Frame Fill

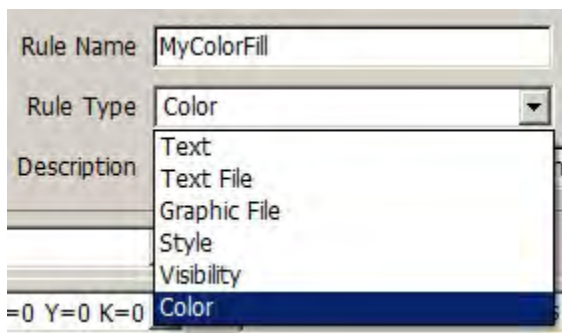
Ensure that the colors you want to use are part of the Color Swatch panel.

Select the **Create a new rule** icon.



Enter a name for your rule.

Select the rule type as **Color**.



Select an optional default color or leave as *none*. The default color is the option that is selected if none of the

conditional statements in the rule are evaluated as true.

Next, to specify the conditional statements for this rule, select the color that to be used when the condition is evaluated to be true. Specify the fields being tested, the type of evaluation, for example, is equal to, not equal to, and so on, then the value you are testing for. To add additional statements, select the large plus + button.

The screenshot shows the 'Edit Rule' dialog box. At the top, the 'Rule Name' is 'MyColorFill', 'Rule Type' is 'Color', and the 'Description' is 'Sets variable color based on FirstName'. Below this, the 'Default value' is set to '[None]'. There are two conditional rules listed:

- Rule 1: Value = ■ C=100 M=0 Y=0 K=0 when any of the following is true:
  - Field:  Evaluation:  Value:
- Rule 2: Value = ■ C=15 M=100 Y=10... when any of the following is true:
  - Field:  Evaluation:  Value:

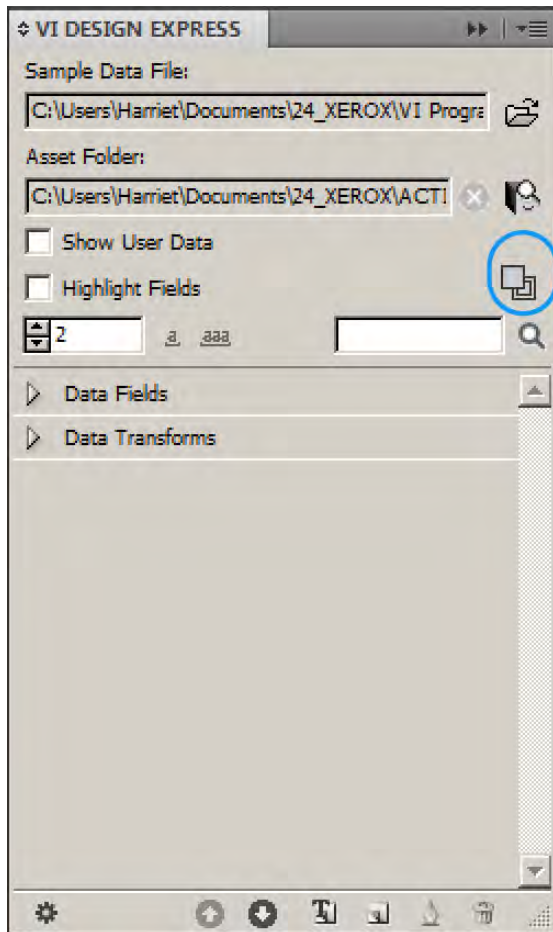
At the bottom right are 'OK' and 'Cancel' buttons.

In this example, the color rule called *MyColorRule* has a default color of *None*. The color *MyBlue* is selected if the field *FirstName*, regardless of case, is equal to *David*. The color *MyGreen* is selected if the field *FirstName*, regardless of case, is equal to *Carlo* and the color *MyRed* is selected if the field *FirstName*, regardless of case, is equal to *Jane*.

When you have finished building the color rule, to save, select **OK**. The rule *MyColorRule* is added to the VDE Object list in the Rules section.

The method to apply the rule is the same method that is used to apply a variable color from a data base field. As with a color rule, it is important to verify that the swatch panel does include a color name as defined in the data base field. If a color name used in a data field or rule is not present in the swatch panel, the default color *White* is used.

The variable color rule or data field can be applied to either the frame stroke or frame fill, based on the setting controlled by the Variable Color toggle button.



The circled area in the example shows the toggle button that controls the selection of the frame fill or frame stroke. In the image, the filled box is on top, which indicates that the selected option is Frame Fill. When the toggle button is set to Frame Stroke, the outline box is on top. To toggle back and forth, use this toggle button.

#### To apply a variable color to a Frame Fill

- Select the frame to apply the color rule and a variable color field.
- Set the toggle button to Frame Fill
- Double click the color rule and a variable color field to apply

#### To apply a variable color to a Frame Stroke

- Select the frame to apply the color rule and a variable color field.
- Set the **Frame Stroke Size**.
- Set the toggle button to **Frame Stroke**.
- Double click the color rule to apply, or select the rule, then right-click and select the **Insert Object: rulename**.

Scroll through your records to verify the operation and verify your logic.

To disable the rule, select the frame, then using the InDesign Fill/stroke options, set the fill or stroke to **None**. Alternatively, to delete the rule, select the rule, then right-click and select **Delete Rule**.



## Applying a variable color to a monochrome image

Variable color can be applied to monochrome images. This is ignored when used on color images. Use the variable color to assign a color to a monochrome image, such as a logo or mascot image.

- Ensure that the colors you want to use are part of the Color Swatch panel.
- Create a variable rule and a variable color field, as previously shown.
- Select the image to which you want to apply the variable color rule. To make this selection, use the Direct Selection Tool white arrow.
- Apply the **variable color rule**, as previously shown.



# VDE Business Charts

This chapter contains:

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VI Design Express Chart Options..... 225

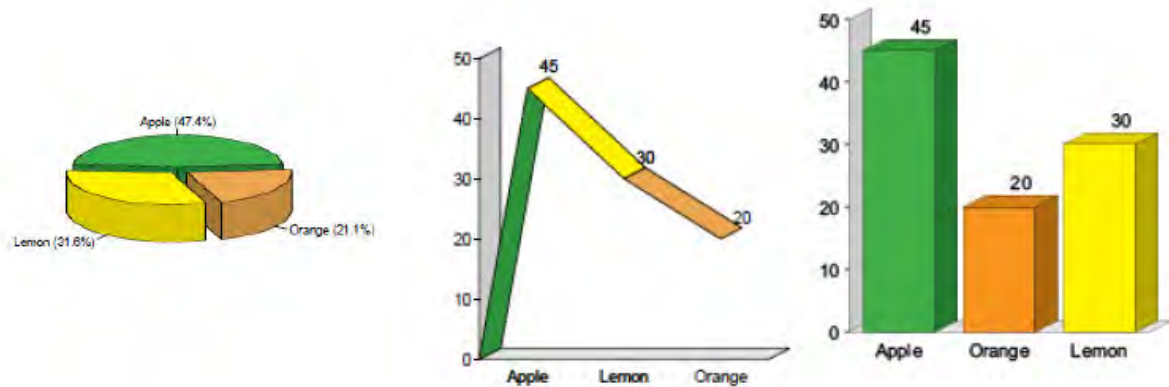
VI Design Express can generate pie, line, and bar charts driven by variable data. Chart attributes such as 2-D or 3-D, fill pie or half pie, legends, etc., are available to control the look of the business chart.

Business Charts are accessed by right-clicking on a graphic frame in your design and selecting the VDE Chart Options panel.

## Business Chart Options

VI Design Express Chart options are used to generate data-driven business charts in your document. Pie, line, and bar charts are supported. Several options are available to enhance the appearance of the chart, including 3-D options and custom color selections.

Examples of Business Charts:



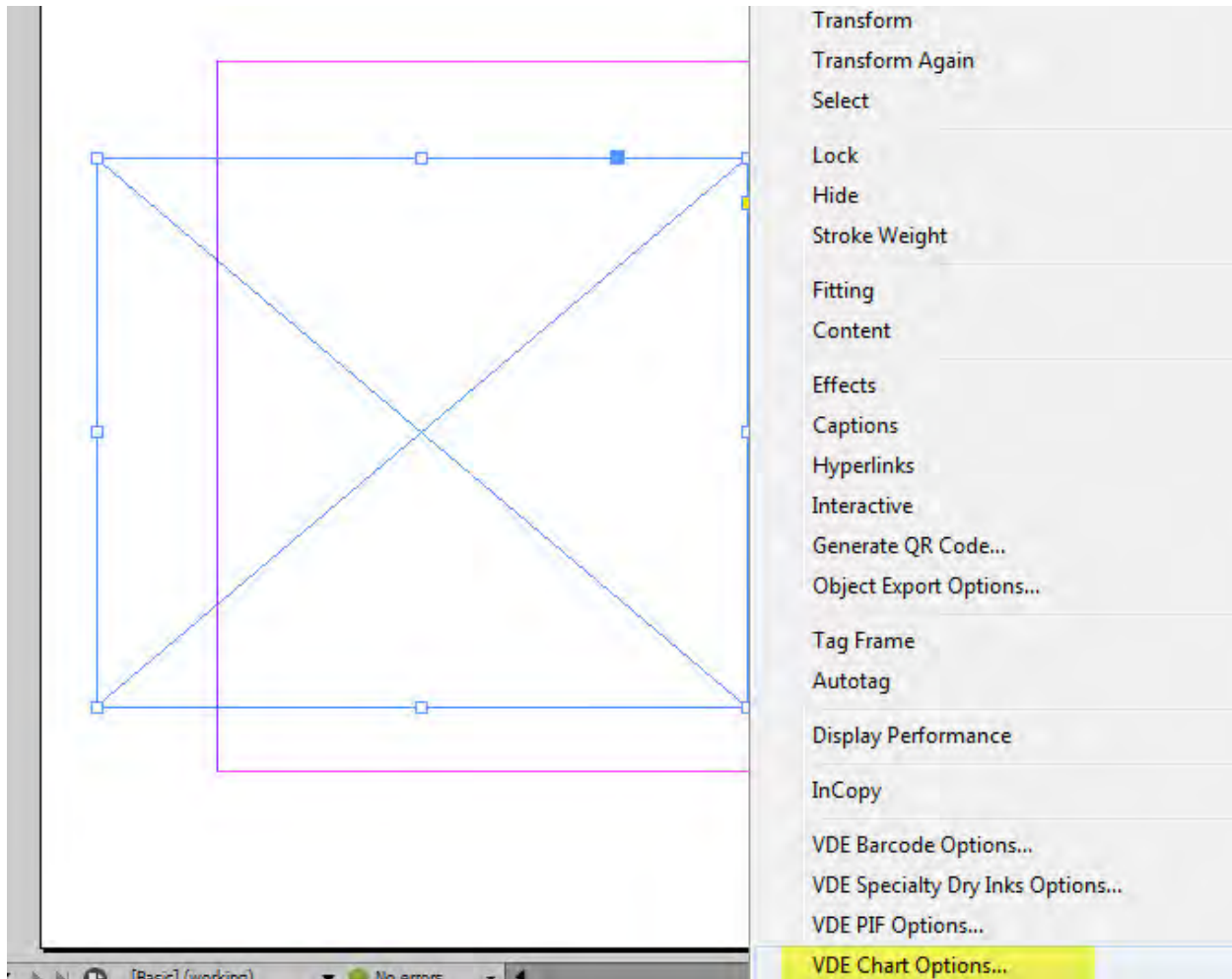
The steps to create a pie, line, and bar chart follow the same process:

1. If you plan to use custom colors for your chart, before you create the chart, define those colors in the Swatches panel, so that the colors are available for selection.
2. Create a graphic frame at the location on the page where the business chart will appear. The size of the graphic frame is used as the size of the business chart, including scale, labels, and legends, if used.
3. With the graphic frame active, right-click then select **VDE Chart options ....** The VI Design Express Chart Options dialog box opens.
4. Select the chart type, then select the chart options for that type of chart.
5. Select the data elements that are used to drive the chart. If necessary, before step 1, create data transforms or rules that contain the correct data. The data fields, rules, or data transforms selected can contain numeric data only.
6. Preview the chart using the **Preview** option in the Chart Options dialog.
7. Make adjustments to the options as necessary.

## VI Design Express Chart Options

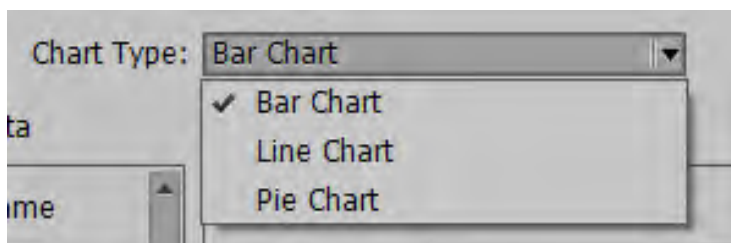
To create a business chart, draw a graphic frame on your document. Make the graphic frame the size you want the chart, including labels and so on, to appear in your document.

With the graphic frame active, right-click the graphic frame, then select **VDE Chart Options**.

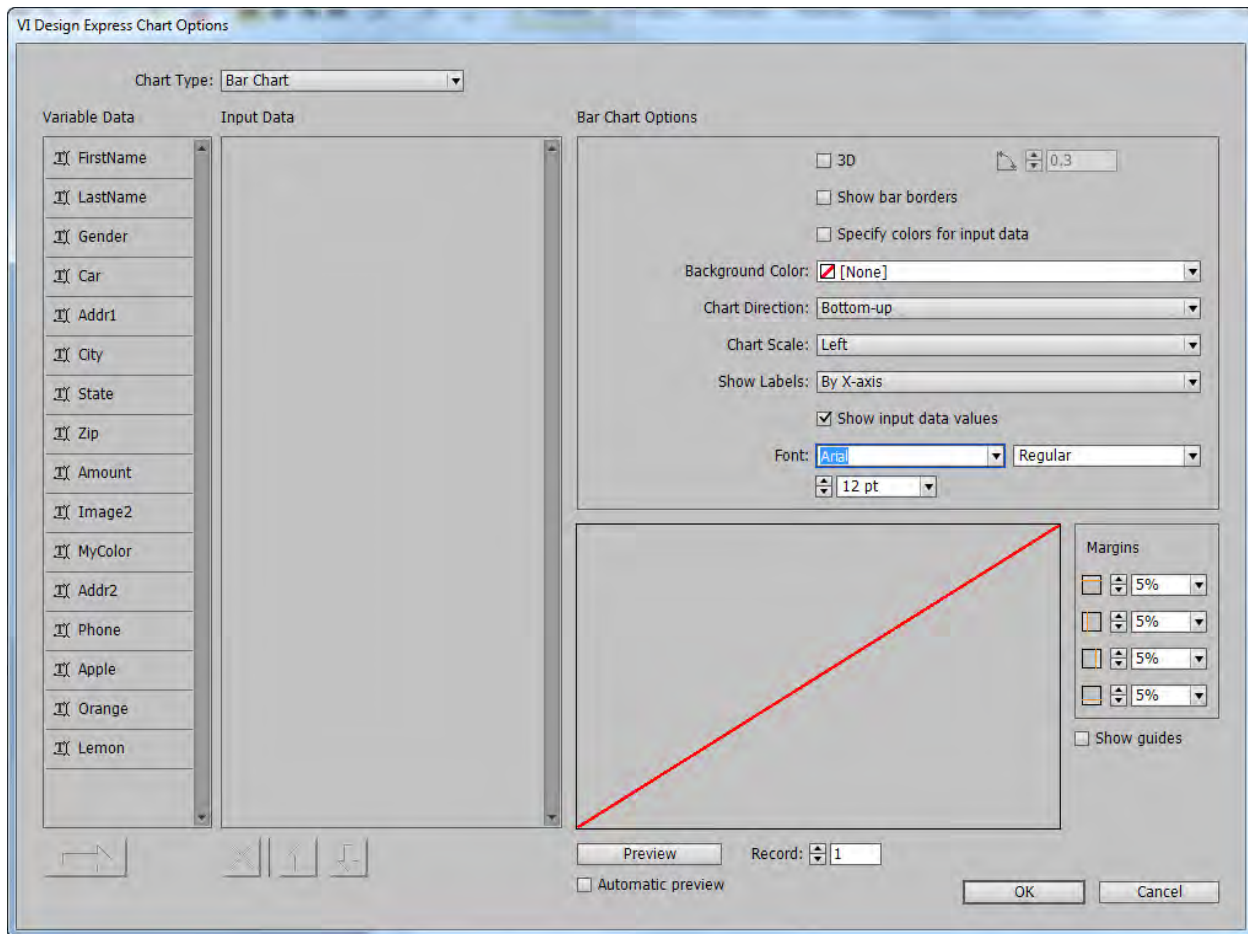


The VI Design Express Chart Options dialog opens.

The Chart Type option is used to select the chart type. Use this **Chart Type** menu to select either **Bar Chart**, **Line Chart**, or **Pie Chart**.



## SELECTING INPUT DATA



The VI Design Express Chart Options panel lists all the available data fields, rules, and data transforms in the Variable Data area. Only select data fields, rules, and data transforms that contain numeric data. If you choose a field that contains non-numeric data, an error appears when you select **Preview**. To clear the error, remove the field from the Input Data list.

To select fields, highlight the fields you want in the Variable Data list. If the fields you need are consecutive, hold the **Shift** key while you make the selection. Alternatively, use the **Ctrl** key when selecting a field. Selected fields are highlighted.

After you make the selection, click the arrow.



This action transfers those selected fields from the Variable Data list to the Input Data list.

To remove a field from the Input Data list, highlight the field, then select **X**. You can use the **Shift** key or **Ctrl** key to make multiple selections.

To change the order the fields appear in the Input Data list, select the field or fields you want to move, then select the up or down arrow.



After you have selected the data fields to be used in the chart, you can change the label and assign a swatch color to each chart segment. If you choose not to assign a color, VI Design Express assigns a default color.

**Input Data**

**Apple**  
 Label: Apple  
 Color: C=75 M=5 Y=100...

**Orange**  
 Label: Orange  
 Color: C=15 M=26 Y=100...

**Lemon**  
 Label: Lemon  
 Color: C=0 M=0 Y=100 K=0



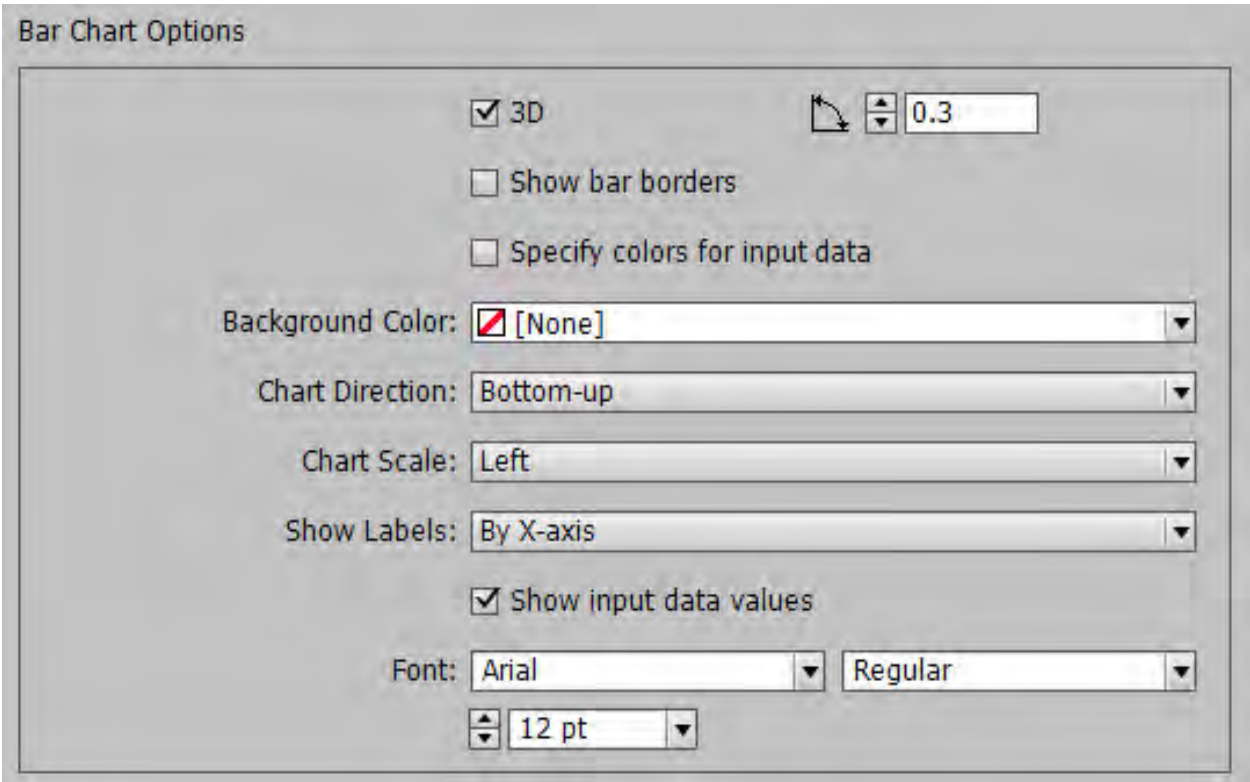
Note: If the Color option is grayed out, the VI Design Express default colors are used. To activate manual color selection, select the **Specify Colors for input data** check box in the Chart Options panel. After you select this check box, you can use the Color menu to select a color from the swatches list.

## BAR AND LINE CHART OPTIONS

The Chart Options section of the VI Design Express Chart Options dialog is used to assign specific chart options.

Some options can appear grayed out because another option needs to be selected to enable those options. For example, the 3D Angle dialog is grayed out until **3D** is selected. After **3D** is selected, you can use the 3D Angle dialog to increase or decrease the 3D viewing angle of the chart elements.

The options shown are the standard Chart Options available for Bar and Line charts. A slightly different selection of options are available for the pie chart.



The following table describes each option in more detail.

3D	Select this option to create a 3D chart. The viewing angle of the 3D chart can be adjusted by the control to the right of the option. If this option is not selected, a 2D chart is generated.
3D Angle	Value between 0.1 and 1. Specifies the 3D angle of the bar or line segments if the 3D check box is selected. Use the up or down arrows to adjust the angle setting or type in a value.
Show Bar/Line borders	Select this option if you want to draw a line around each data segment of the chart. The default is not selected.
Specify colors for input data	Select this check box to enable the assignment of swatch colors to each chart segment. This option enables you to select the <b>Color</b> option for each chart element in the Input Data section of the dialog.
Background Color	This option assigns a background color for the chart.
Chart Direction	Use this menu to select the chart direction.
Chart Scale	Use this option to select the placement of the scale. If no scale is required, set this option to <b>Off</b> .
Show Labels	Options are:



**Off**

Labels are not printed.

**By X-axis**

Labels print on the X Axis.

**At Data Point**

Labels print at each data point of a line chart.

**At End of Bar**

Labels print at end of each bar in a bar chart.

**As Legend**

Labels print as a legend.

Show input data values

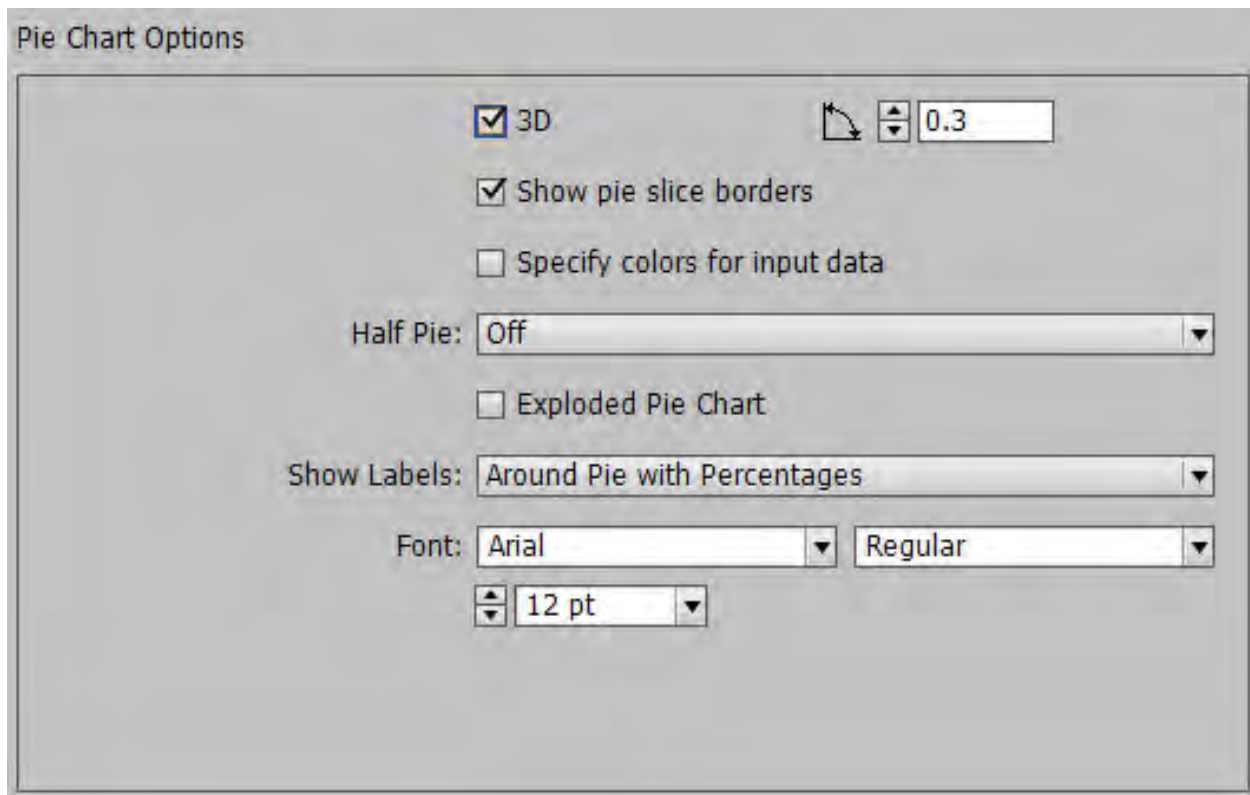
This option shows data values. You can select a font and font attributes. This option is grayed out when Show Label is set to **At End of Bar** or **At Data Point**.

Font

Type face used for chart labels and values.

## PIE CHART OPTIONS

The Pie chart options differ slightly from the Bar or Line chart options. The options that differ are noted in the following list:



3D	Select this option to create a 3D pie chart. The viewing angle of the 3D pie chart can be adjusted by the control to the right of the option. If this option is not selected, a 2D chart is generated.
3D Angle	Value between 0.1 and 1. Specifies the 3D angle of segments if the 3D check box is selected. Use the up or down arrows to adjust the angle setting or type in a value.
Show Bar/Line borders	Select this option if you want to draw a line around each data segment of the chart. The default is not selected.
Specify colors for input data	Select this box to enable the assignment of swatch colors to each chart segment. When you select this option, you can select the <b>Color</b> option for each chart element in the Input Data section of the dialog.
Half Pie	<p>Three options are available:</p> <p><b>Off</b></p> <p>This option generates a full circle pie chart.</p> <p><b>Top Half</b></p> <p>This option generates a full circle pie chart.</p>

Exploded Pie Chart

Show Labels

### Bottom Half

This option generates a half pie chart, bottom half of the circle.

Select this box to explode the pie chart.

Four options are available:

### Off

No labels are visible.

### Around Pie

Labels print outside of the pie chart.

### Around Pie with Percentages

Labels with Percentage values print outside the pie chart.

### As Legend

This option prints a legend to the right of the pie chart.

Font

Type face used for chart labels and values.

## PREVIEW

To preview a display of the chart, select **Preview** at the bottom of the dialog. It can take a minute to render the first preview. After the first preview is rendered, the following previews render much faster. It is recommended that you select the **Automatic preview** check box, which regenerates the preview when most of the chart options are changed.

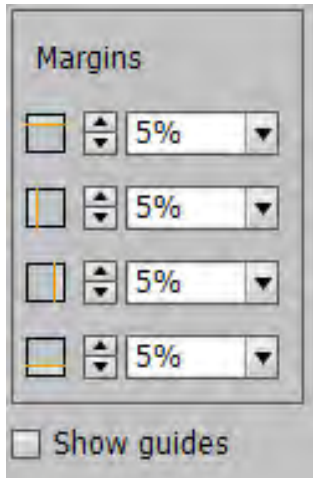
The preview displays how the chart and labels will appear on the graphic frame on your page. If labels or legends fall outside the white image area that represents the graphic frame, adjust the margins until all labels and legends are within the white square.

Select **Record** to scroll from record to record, to display a preview for each record.

## MARGINS

The Margins panel is used to position the chart in the graphic frame so that the chart and any labels or legends remain within the width and height of the graphic frame created to hold the chart.

When adjusting margins, use the **Preview** option to review the changes you have made.



To select the preview option click **Preview**. It can take a minute to render the first preview. After the first preview is rendered, the following previews render much faster. It is recommended that you select the **Automatic preview** check box, which regenerates the preview when most options are changed.

The preview image shows how the chart and labels will appear on the graphic frame on your page. If labels or legends fall outside the white image area that represents the graphic frame, adjust the margins until all labels and legends are within the white square.

To view margin guide lines in the preview panel, select the **Show guides** check box.

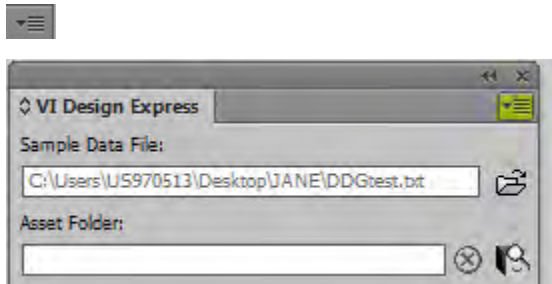
When you are satisfied with your chart and the chart options selected, to create the business graphic in your design, click **OK**. Otherwise, to abort the creation of the business graphic, select **Cancel**.

### ADVANCED VIPP® DDG PARAMETERS

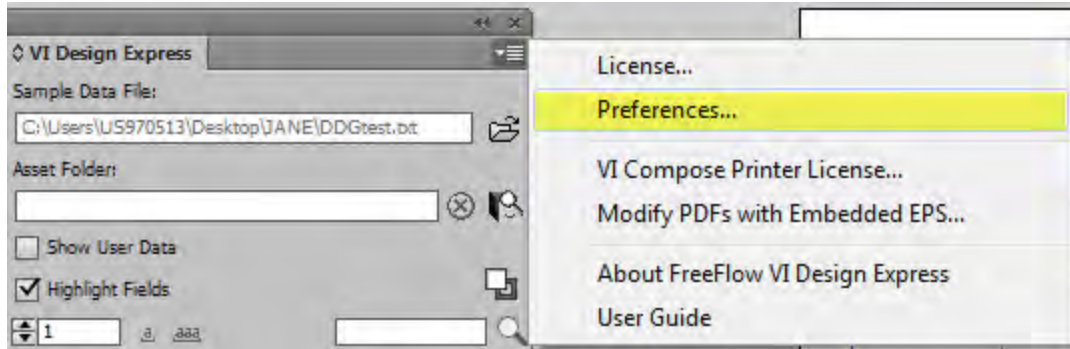
While the available VI Design Express Chart Options described satisfy most business chart needs, there are some advanced options you can select to fine-tune your chart.

To access the advanced options, activate the VIPP® DDG Parameters by selecting the **Show advanced VIPP DDG parameters** check box in the Interface option under the FreeFlow VI Design Express Preferences menu.

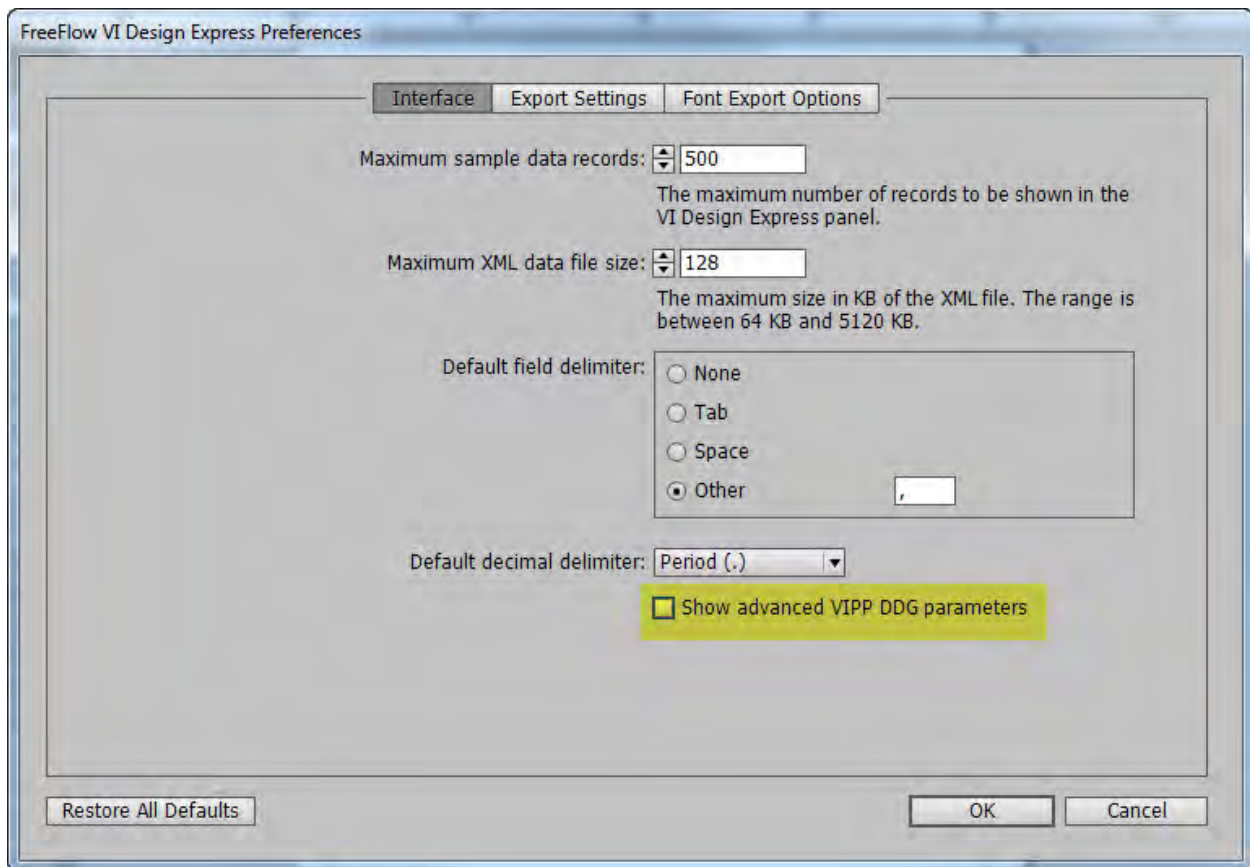
To access the FreeFlow VI Design Express Preferences dialog, choose the **Preferences for VDE panel** menu shown here:



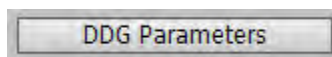
From the menu, select **Preferences....**



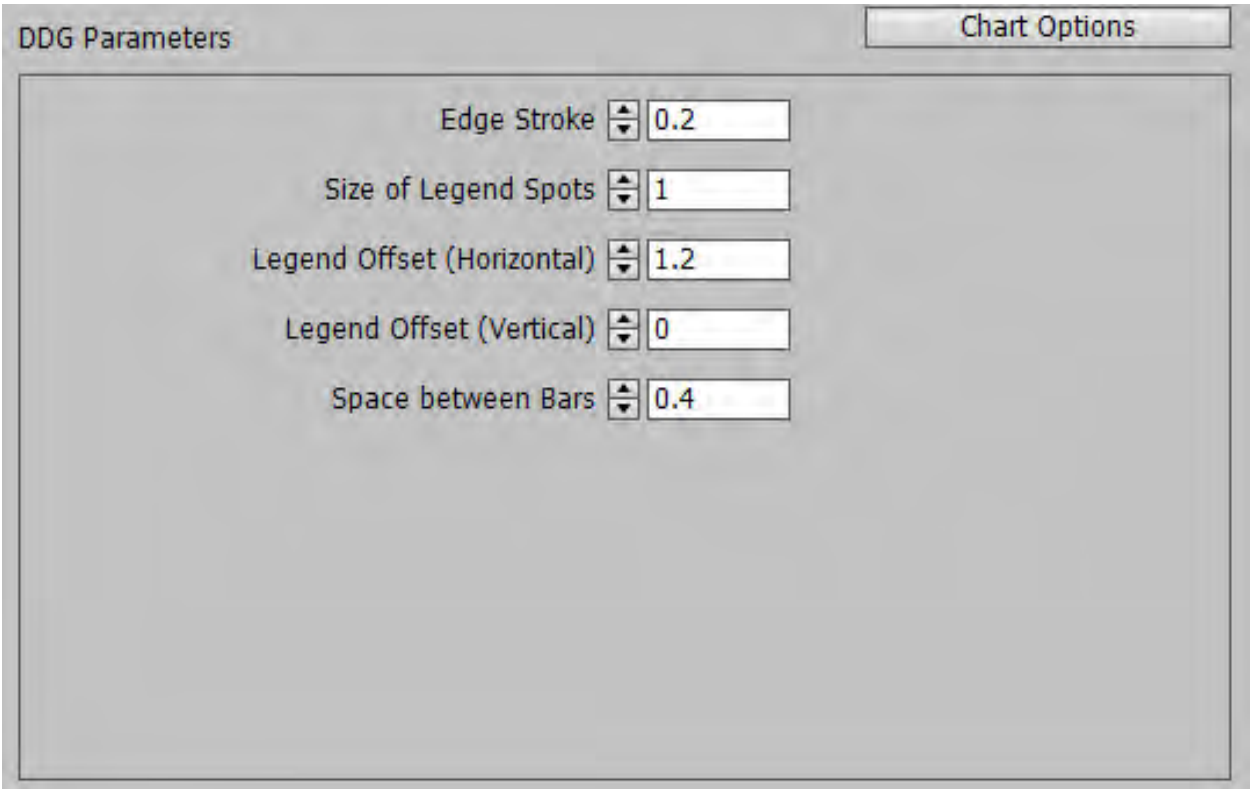
The FreeFlow VI Design Express Preferences panel opens. Select **Show advanced VIPP DDG parameters**.



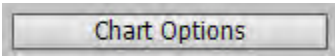
This action adds the following button to the Chart Option panels at the top-right corner.



The DDG parameters shown are applicable to the chart type selected. Changing the chart type results in different options being displayed.



The DDG Parameters button toggles to display chart options. Click this toggle button to return to the Chart Options panels.



The VIPP® DDG parameters are described as follows:

Edge Stroke	If element borders are shown, this parameter adjusts the thickness: 0.1–2
Size of Legend Spots	Increase or decrease legend spots, if selected: 0.5–2
Legend Offset (Horizontal)	Adjusts the legend offset: -4–2
Legend Offset (Vertical)	Adjusts the legend offset: -2–2
Space between Bars	Adjusts the space between bars, for bar charts only: 0–1
Draw Line from Origin	Adds a line element from the origin to the first data point for line charts only: True or False
Burst Amplitude	If a pie chart is exploded, this parameter increases or decreases the amplitude, for pie charts only: 0.1–1

## PIF Options

This chapter contains:

### Using VDE PIF Options..... 236

The VDE PIF option inserts a PDF Interactive Feature object into your application. Any PDF Interactive feature placed in the document will not be rendered when printing the application to a VIPP®-enabled print device i.e. hard copy. If you generate PDF output by exporting to VI Design Express PDF, or by processing a .vpc file using VI eCompose, then, when viewing the PDF file using Adobe Acrobat or Reader, these PDF Interactive Features become clickable objects on the page.

The following PDF Interactive objects are supported:

N- This will place a yellow PDF Note Icon

O-


te 

on the page. When clicked, the note will expand to display the note title and content.

U- This will embed a web address into a selectable area of the page. When the mouse hovers over this area

RI the mouse pointer will change and a tool tip will appear with the web address. If the user clicks this area and the user has internet access a browser window will open with the specified web address.

## Using VDE PIF Options

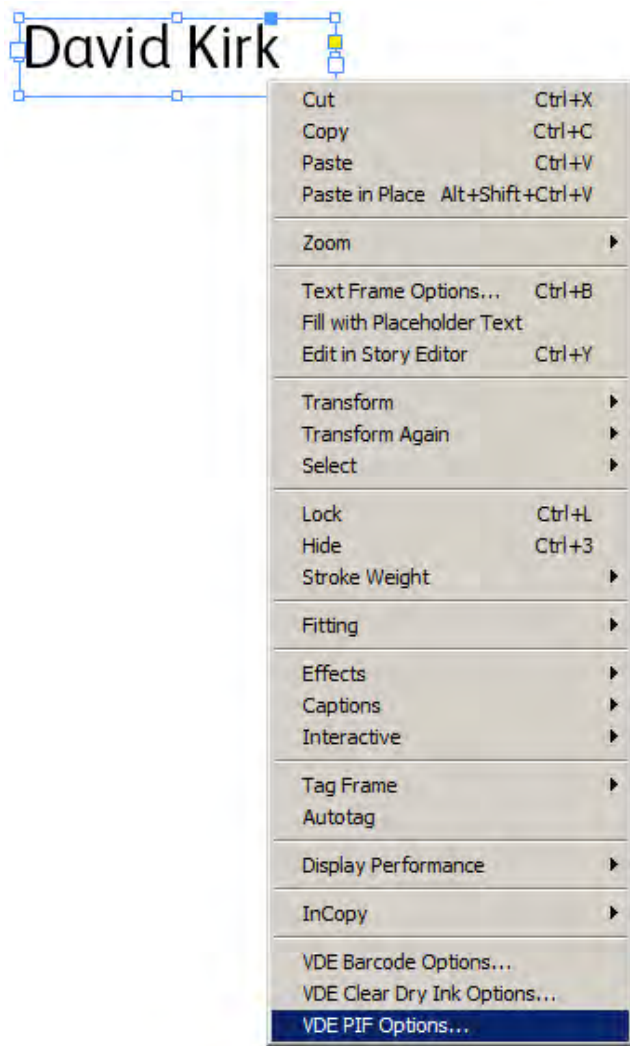
 Note: It is recommended that you apply a Note PDF Interactive feature to an existing text frame or a graphic frame, or create a new empty text or graphic frame. The advantages of using a text frame or graphic frame that contains text or an image, is that your document has an identifiable object that the user can click to enable the PDF Interactive feature when viewing the PDF output.

Use the information in these sections to walk through the process to apply and delete PIF options:

- Add a Note
- Add a URI
- Delete a VDE PIF option

### ADD A NOTE

1. With the frame selected, right-click the frame, then select **VDE PIF Options**.





- When the VDE PIF Options dialog opens, select the **Enable VDE PIF options** check box.

The image shows the 'VDE PIF Options' dialog box. At the top, the title bar reads 'VDE PIF Options'. Below the title bar, there is a checkbox labeled 'Enable VDE PIF options' which is currently unchecked. To the right of this checkbox are two buttons: 'OK' and 'Cancel'. Below the checkbox is a label 'PIF Type' followed by a dropdown menu that currently displays 'URI'. Below the dropdown menu is a large text input field labeled 'Address'.

- From the PIF Type menu, select **Note**. The dialog changes to allow you to enter the note title and note content.

The image shows the 'VDE PIF Options' dialog box after the 'PIF Type' has been changed to 'Note'. The 'Enable VDE PIF options' checkbox is now checked. The 'PIF Type' dropdown menu now displays 'Note'. Below the dropdown menu is a section for entering note details. It starts with a label 'Title' followed by a text input field containing 'My Title Here'. Below the title field is a label 'Contents' followed by two radio buttons. The top radio button is selected and is followed by a dropdown menu displaying 'No Applicable Variable Data Objects'. The bottom radio button is unselected and is followed by a text input field containing the text: 'This would be where the contents of the VDE PIF note would be. The VDE PIF note is displayed when the user clicks on the yellow note icon.' To the right of the text input field is a small yellow note icon.

- Enter the note title. The title can be a field or tag from the data file or can be user-defined text.
- Enter the content of the note.
  - Select the top radio button to select a field from the data panel
  - Select the bottom radio button to enter a user-defined text string as shown in the graphic.

6. To complete the VDE PIF option for the note, click **OK**. The VDE PIF Note looks similar to the following:



When the document is exported, the VDE PIF note becomes part of the document. If the document is printed using .vpc output, the VDE PIF Note is not visible. If you export using the VI Design Express PDF output option, or generate PDF from the .vpc file using the FreeFlow VI eCompose (VIPP® to PDF) server, the VDE PIF Note is indicated on the PDF page by a yellow PDF Note icon.

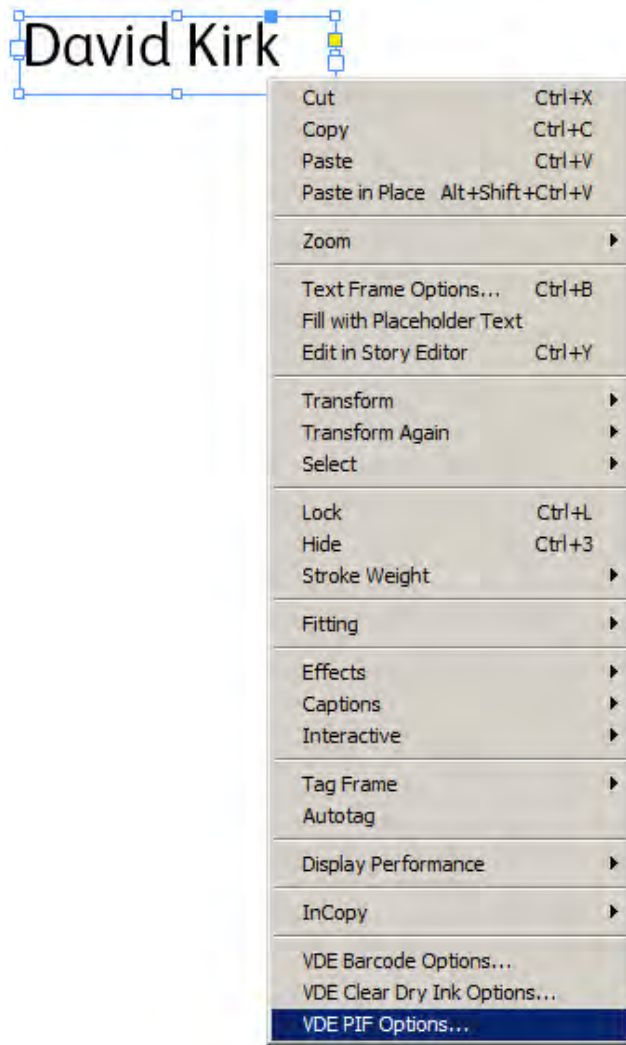


When you click the yellow note icon, the note opens and displays the contents of the note.

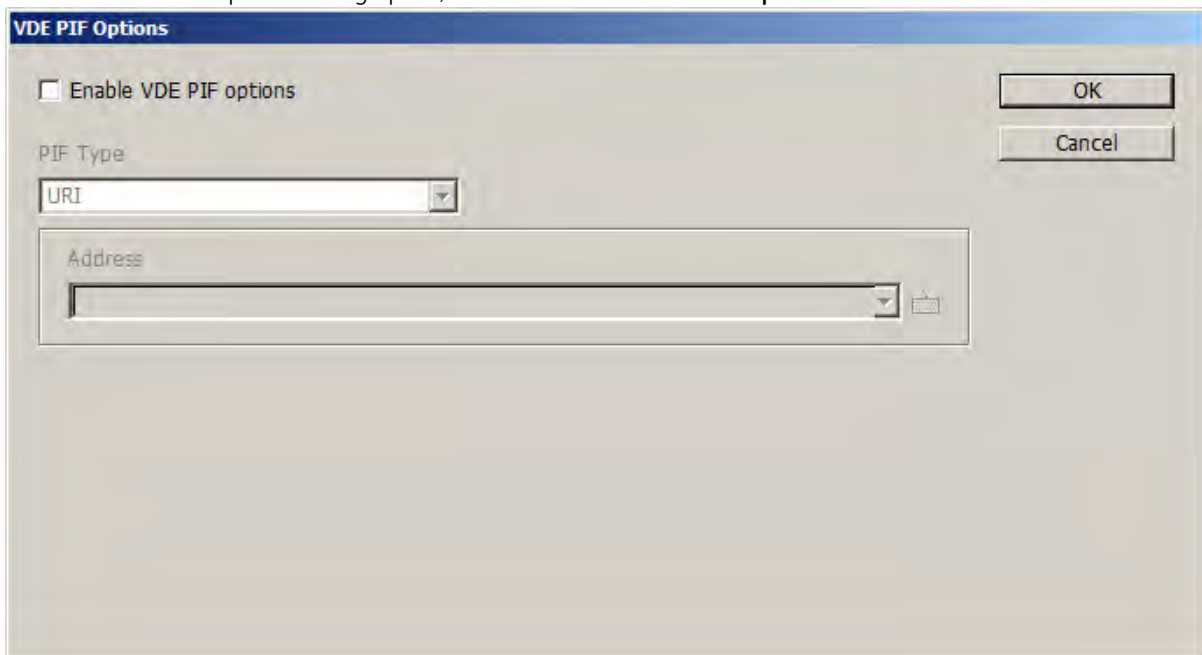
#### ADD A URI

It is recommended that you apply a URI PDF Interactive feature to an existing text frame or a graphic frame, or create a new empty text or graphic frame. The advantages of using a text frame or graphic frame that contains text or an image is that your document has an identifiable object that the user can click to enable the PDF Interactive feature when viewing the PDF output.

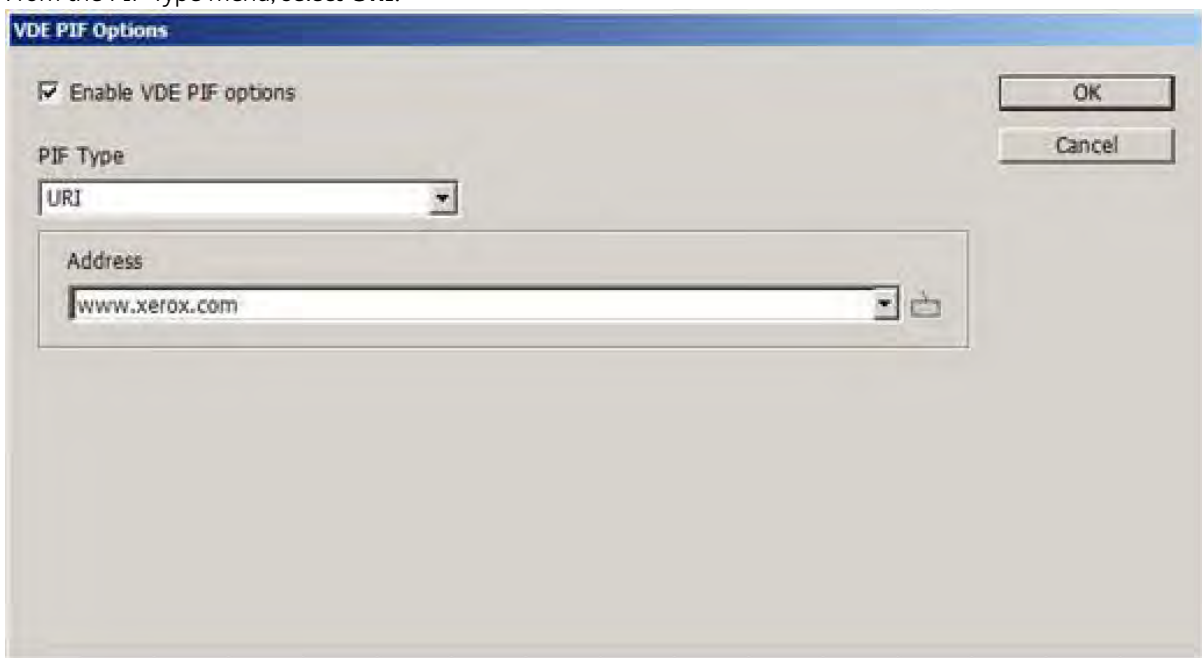
1. With the frame selected, right-click the frame, then select **VDE PIF Options**.



- When the VDE PIF Options dialog opens, select the **Enable VDE PIF options** check box.



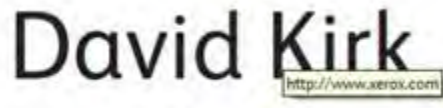
- From the PIF Type menu, select **URI**.



The dialog changes to allow you to enter the URI information. You can either type the Web address or you can select a field from the menu. Ensure that the field contains a valid URI.

- Click **OK**.

When the document is exported, the VDE PIF URI becomes part of the document. If the document is printed using .vpc output, the VDE PIF URI is not visible. If you export using the VI Design Express PDF output option, or generate a PDF from the .vpc file using the FreeFlow VI eCompose (VIPP® to PDF) server, the VDE PIF URI appears on the PDF page as a tool tip.

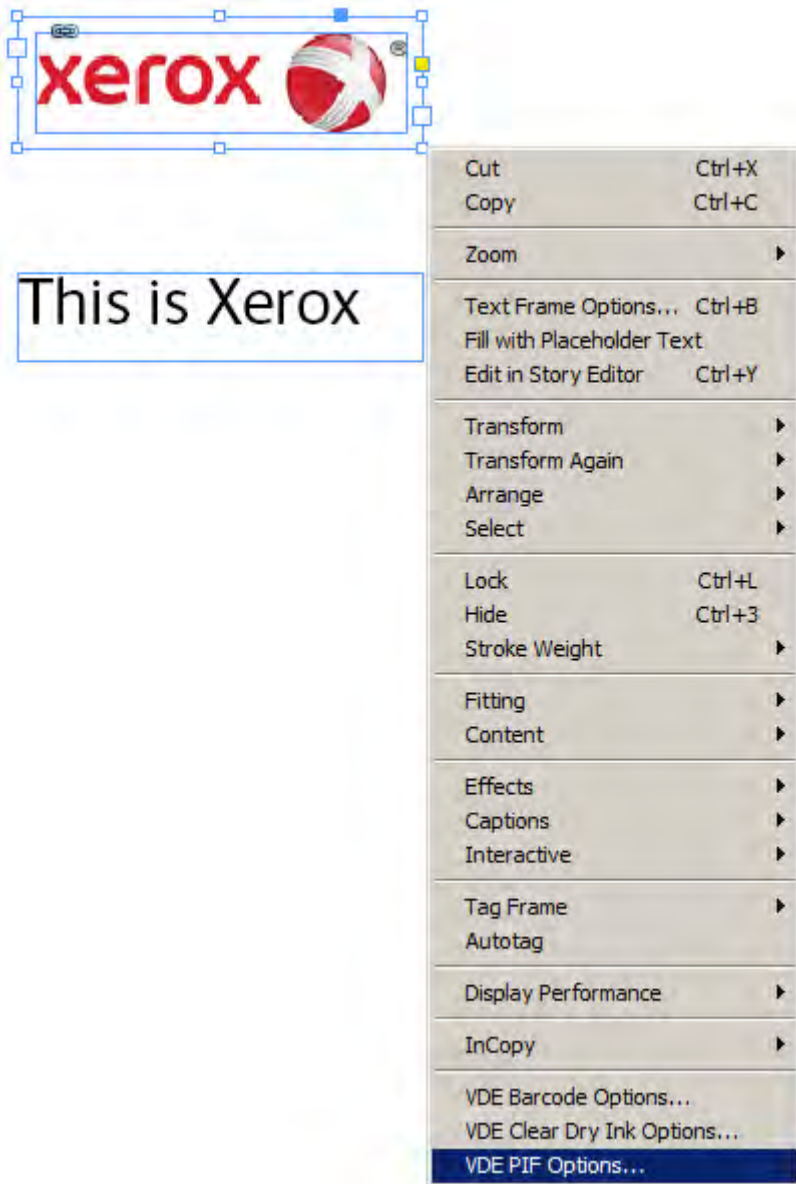


Click the content of the frame, which activates the web link in your browser. A browser opens and attempts to load the web address.

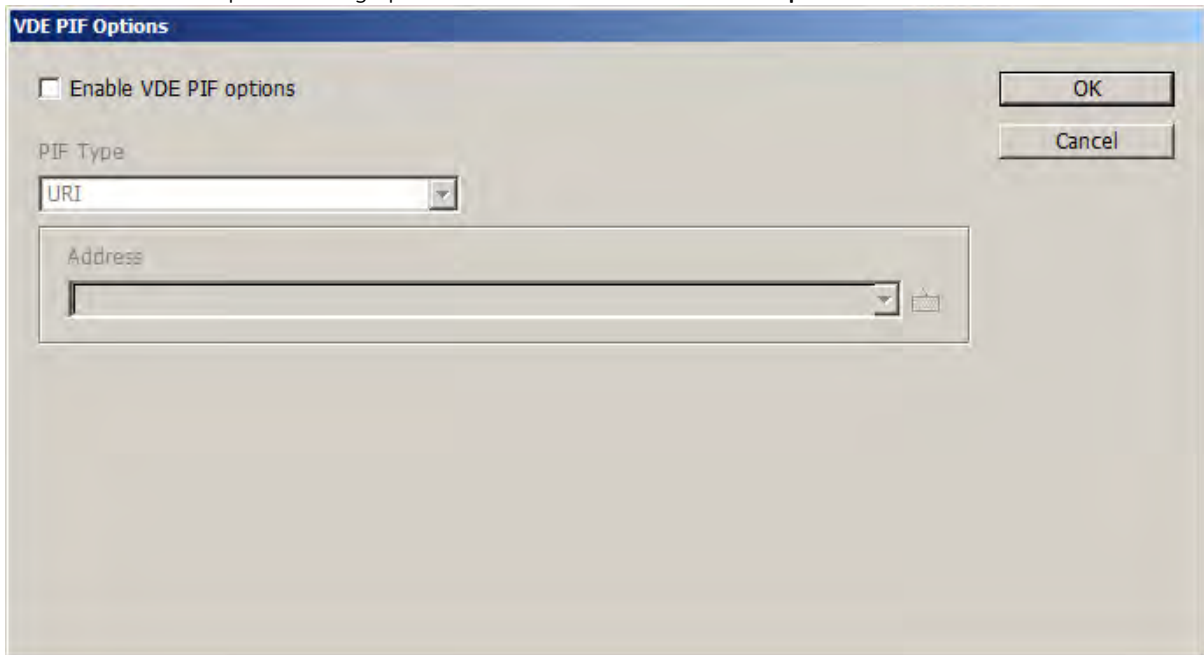
#### DELETE A VDE PIF OPTION

To delete a defined VDE PIF object, follow these steps:

1. With the frame selected, right-click the frame, then select **VDE PIF Options**.



2. When the VDE PIF Options dialog opens, deselect the **Enable VDE PIF options** check box.



3. To delete the VDE PIF object from your application, select **OK**.

# Advanced Functions

This chapter contains:

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- VIPP Job Submission to FreeFlow Core and getting status back from FreeFlow Core ..... 261
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To insert VIPP® functions that are not available directly and cannot be shown in the InDesign interface, use Advanced Functions. Advanced Functions add VIPP® code directly into the application during the Export process when generating the VPC. Advanced Functions can be used to set a VIPP® BOOKMARK.

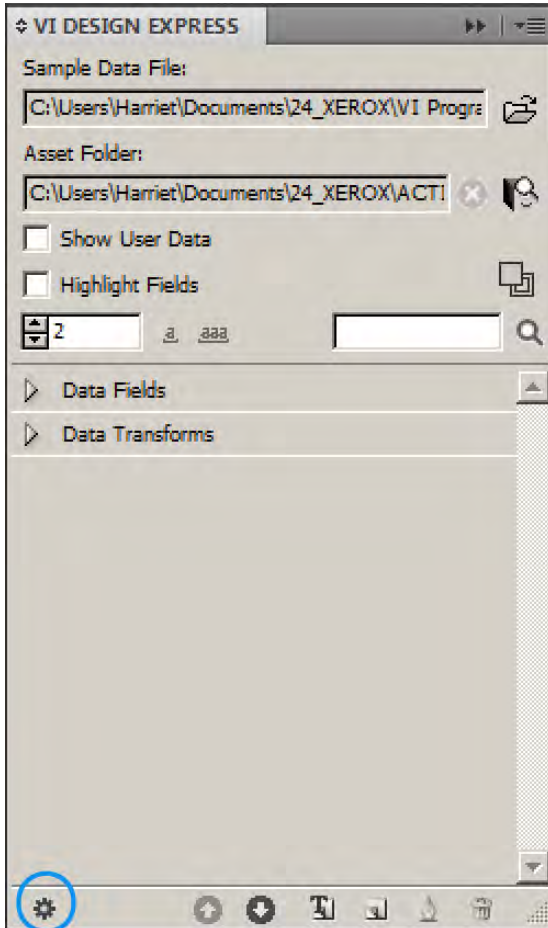
The BOOKMARK Advanced Function is available.

Use the BOOKMARK advanced function when the application (VPC file) will be processed using the Xerox FreeFlow VI eCompose server (VIeC). The VIeC server will ingest a VIPP® based VPC file and generate a PDF file as output. If a BOOKMARK is present in the job, the server can optionally split the PDF into separate child PDF files based on a unique identifier in the job, such as an account number or name. The Advanced Function BOOKMARK is used to insert this option and the required parameters into the VPC file during export from VDE. Only one BOOKMARK advanced function is allowed per job.

## Activating an Advanced Function

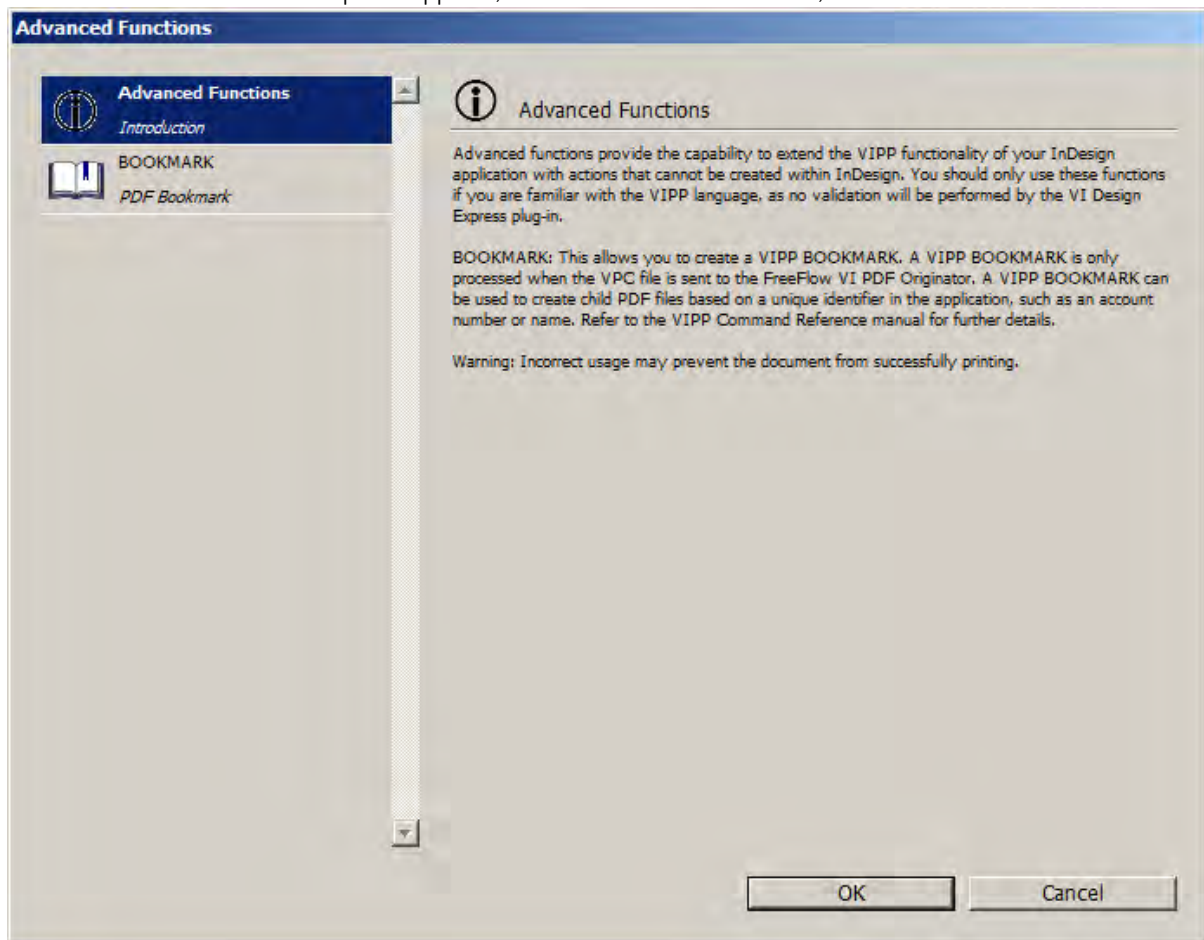
To activate an advanced function, do the following:

1. Select the Advanced Functions icon, which is the cog wheel at the bottom left of the VDE panel.



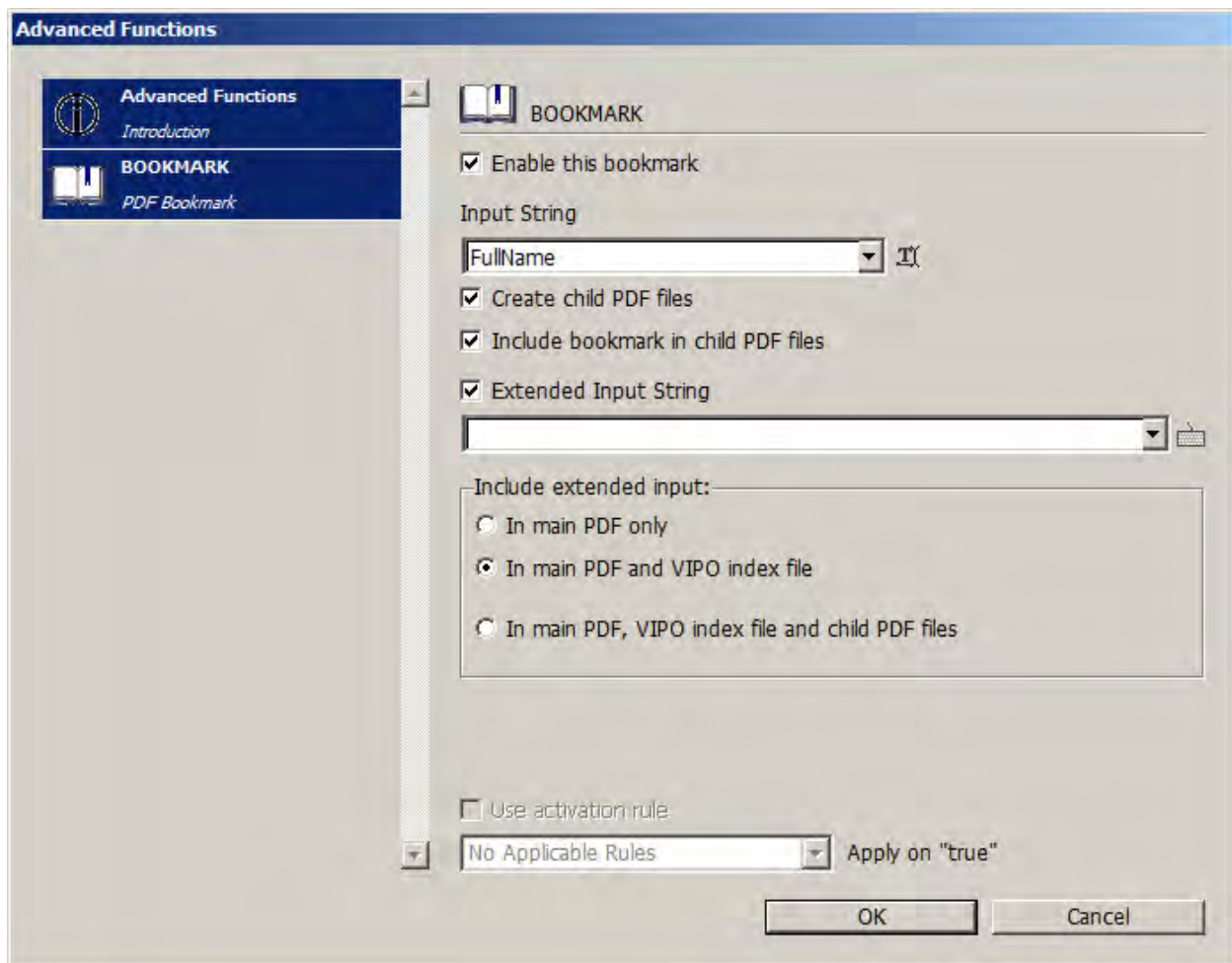


2. When the Advanced Functions panel appears, to add a VIPP® BOOKMARKK, select **BOOKMARK**.



## Setting Up the BOOKMARK Advanced Function

To set a BOOKMARK advanced function, select **BOOKMARK**.



Provide the required and optional information for the VIPP® BOOKMARK feature:

- **Enable this bookmark:** To enable the BOOKMARK option, select the **Enable this bookmark** check box.
- **Input String:** To ensure that the selected field is unique, Xerox recommends that you use a Transform function to concatenate two or more variable fields. Use the concatenated fields for the Input String.
- **Create Child PDF files:** To generate child PDFs, select this check box. The field is selected by default. You can select fields from the data object list, or enter the string manually. If you do not select the **Create Child PDF files** check box, FreeFlow VI eCompose software does not split the generated PDF.
- **Include bookmark in child PDF files:** To include the bookmark in the child PDF, select this check box.
- **Extended Input String:** The bookmark allows 256 characters for the input string data that passes to the VIeC Server. If you need more characters for the input string, select this check box. For more information, refer to the **BOOKMARK** command in the *VIPP® Language Guide*.
- **Include extended input:** To describe how to apply the extended bookmark, select one of the three options:

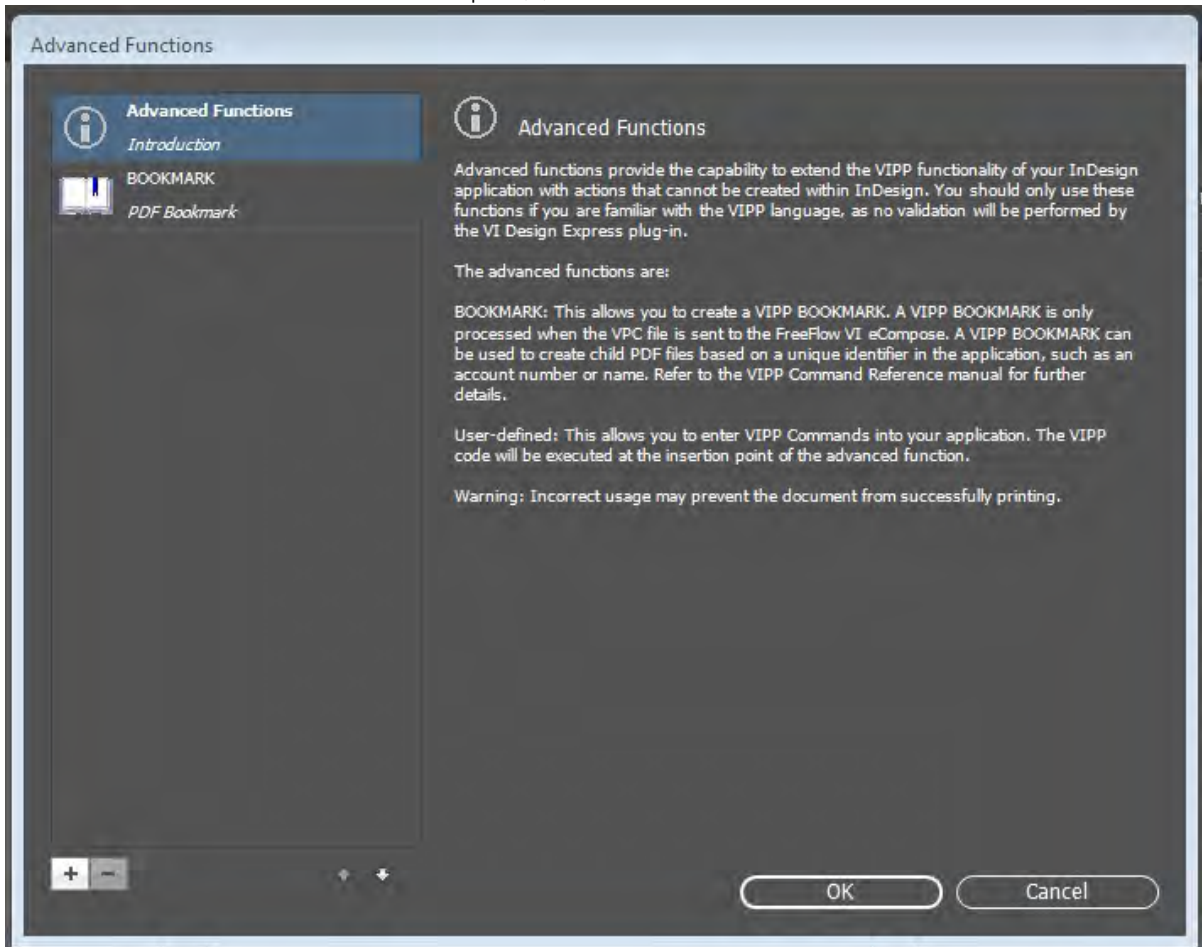
- In main PDF only
- In main PDF and VIEC index file (default)
- In main PDF, VIEC index file and child PDF files
- **Use activation Rule:** To enable the BOOKMARK function based on the result of a previously defined VDE Text Rule, select the **Use activation Rule** check box.



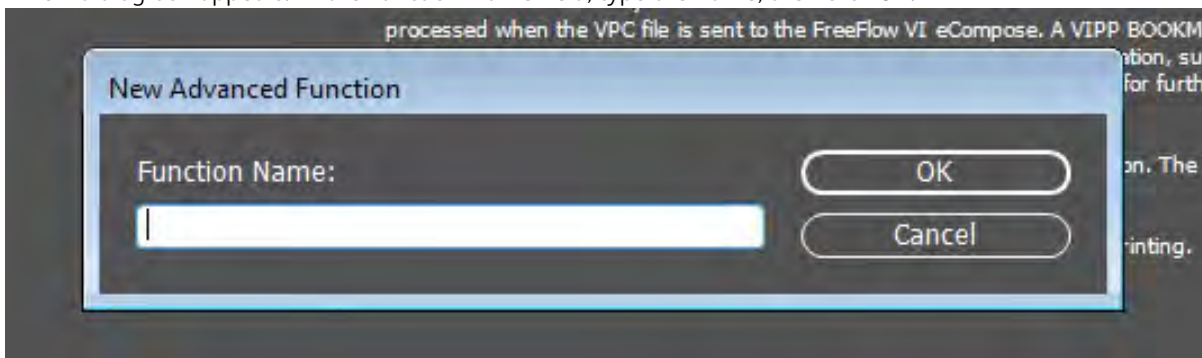
Note: The applicable rules are included in the Activation Rules list. The BOOKMARK function is activated for a given record only when the evaluation result of the selected activation rule is set to **TRUE**.

## Adding a New Advanced Function

1. In the Advanced Function screen, click the plus (+) icon at the bottom-left corner of the screen.

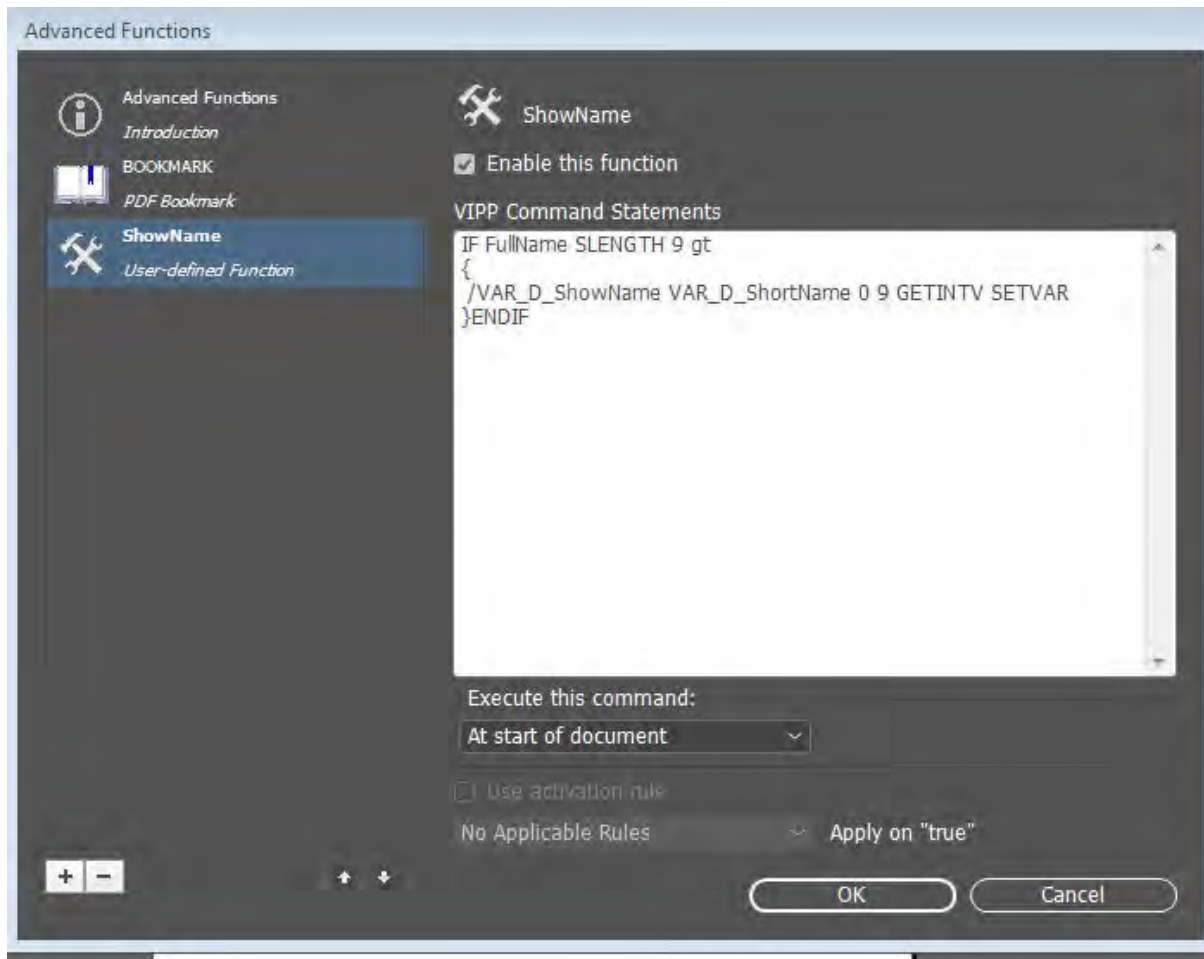


2. A new dialog box appears. In the Function Name field, type the name, then click **OK**.

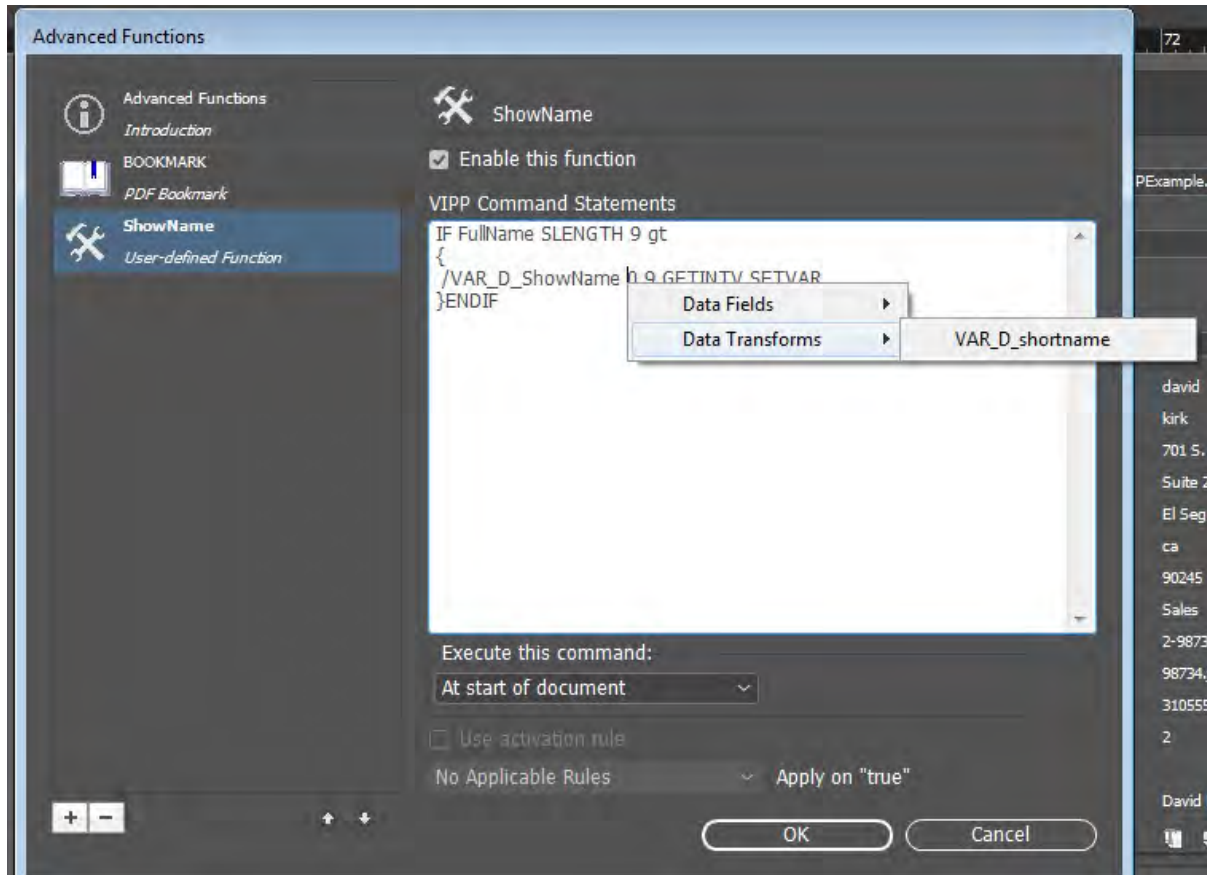


3. To enable the Advanced Function file, select the check box for **Enable Advanced Function**.

4. Enter the VIPP® code in the VIPP Command Statements text area.



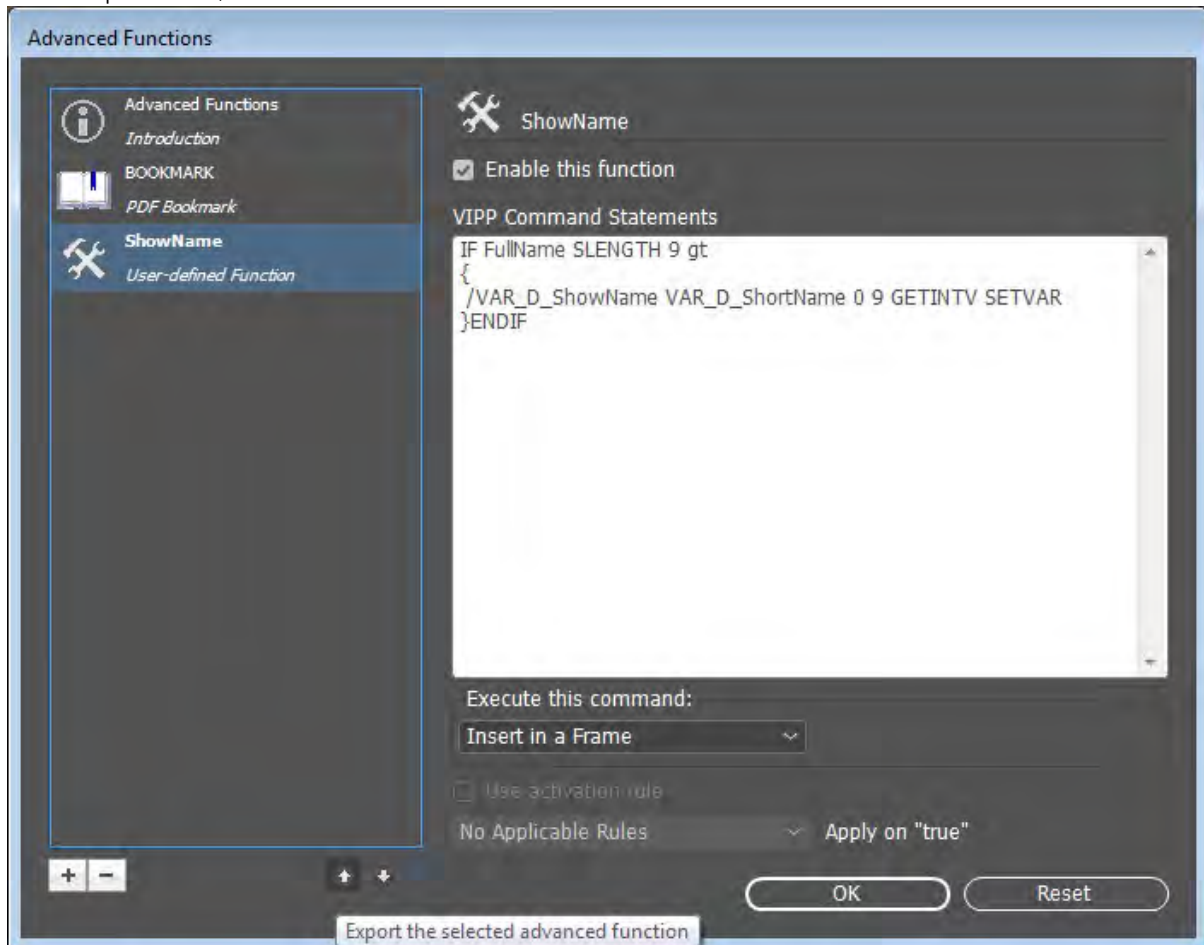
- To insert data fields, data transforms, or rules, right-click the text area, then from the context menu, choose the appropriate data to be inserted in the VIPP® code.



- After you complete the function codes, click **OK**.

## Exporting and Importing an Advanced Function

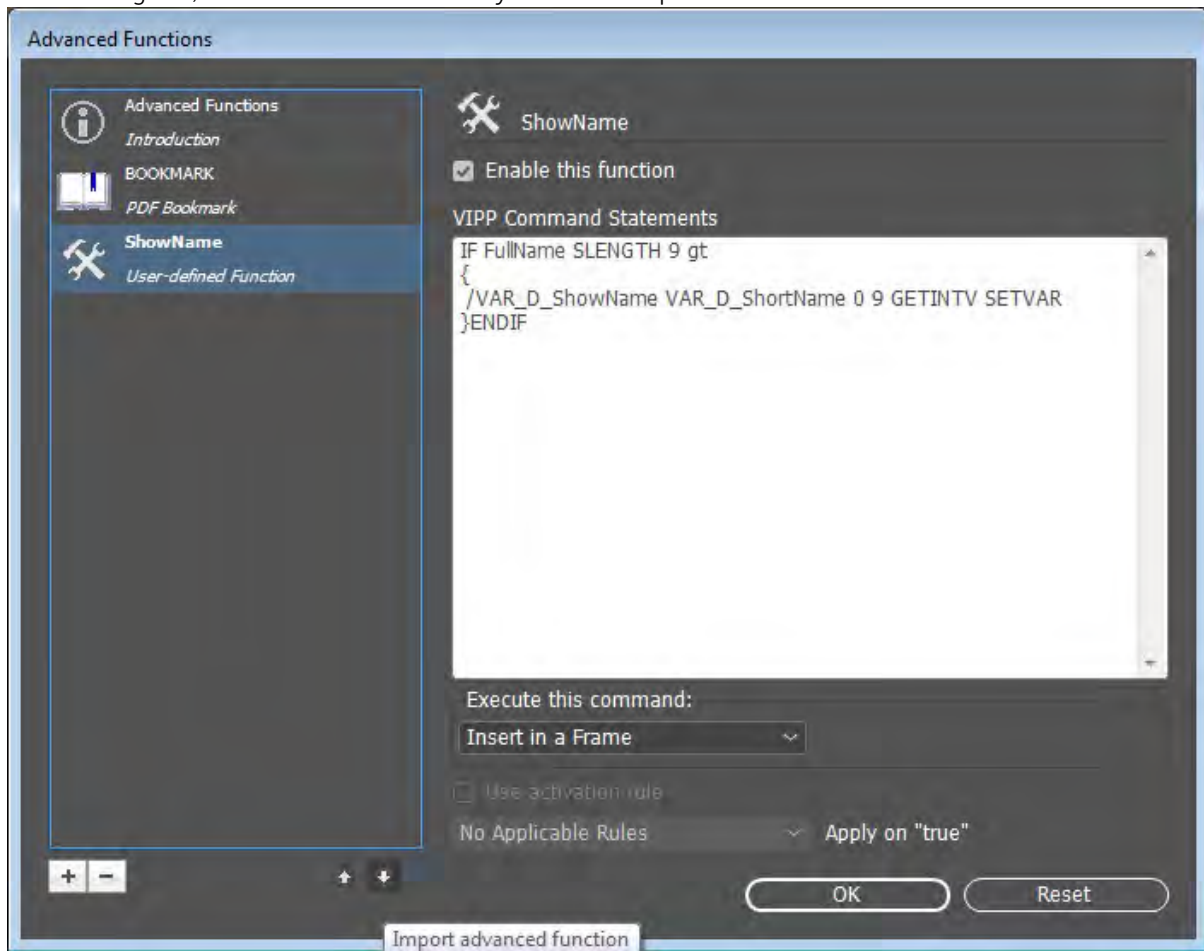
1. To export an advanced function, access the **Advanced Functions** window, then select the advanced function that you want to export.
2. At the bottom of the screen, click the export icon.
3. For an export name, enter the file name in that location that contains the .dat extension.



4. For the import function, access the **Advanced Functions** window. At the bottom of the screen, click the import icon. A dialog box opens.



5. In the dialog box, select the APT.dat file that you want to import.

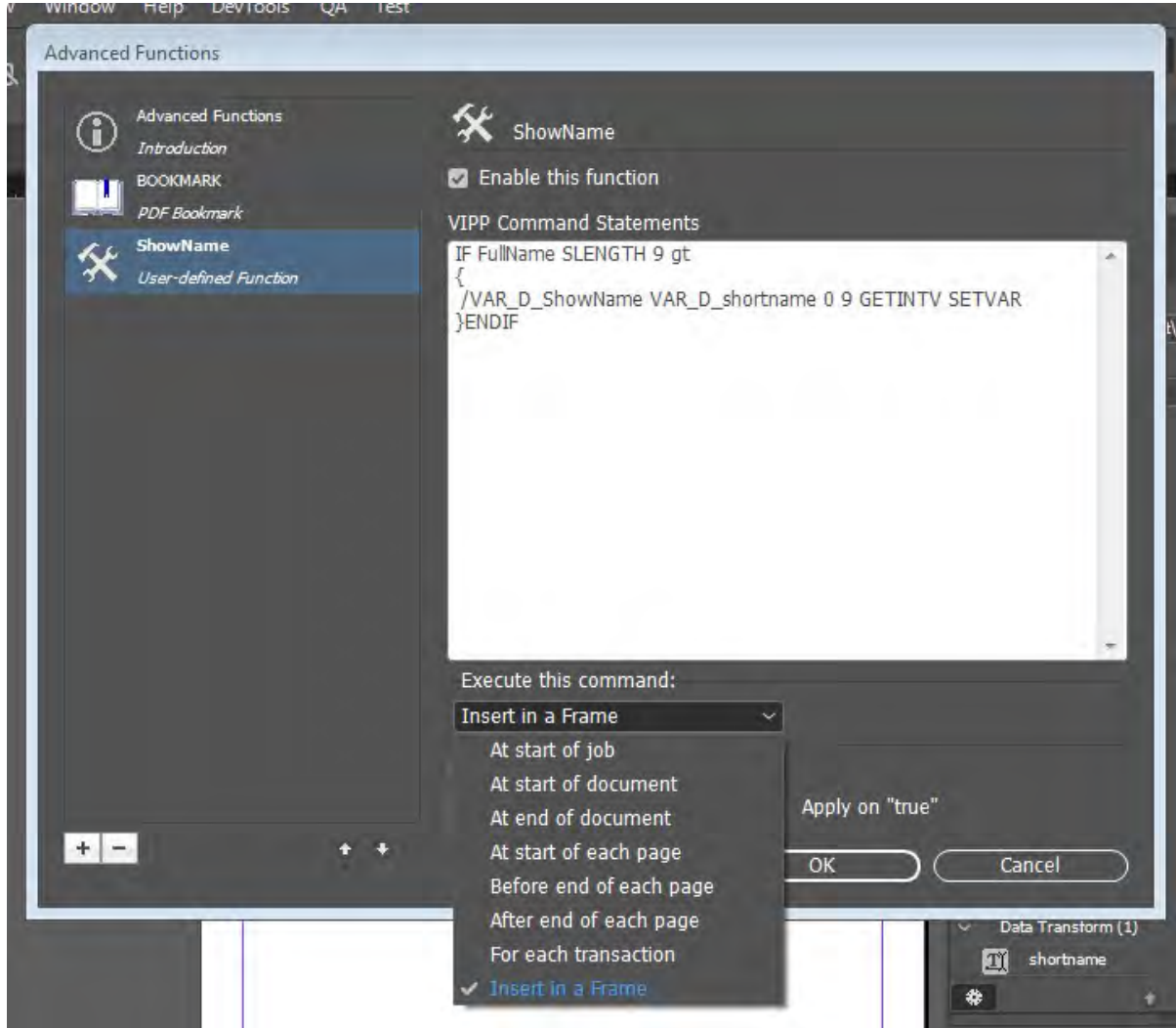


The imported advanced function appears in the list. If the imported advanced function has the same name as an existing function, the software renames the function to <<advancedfunc (1) >>



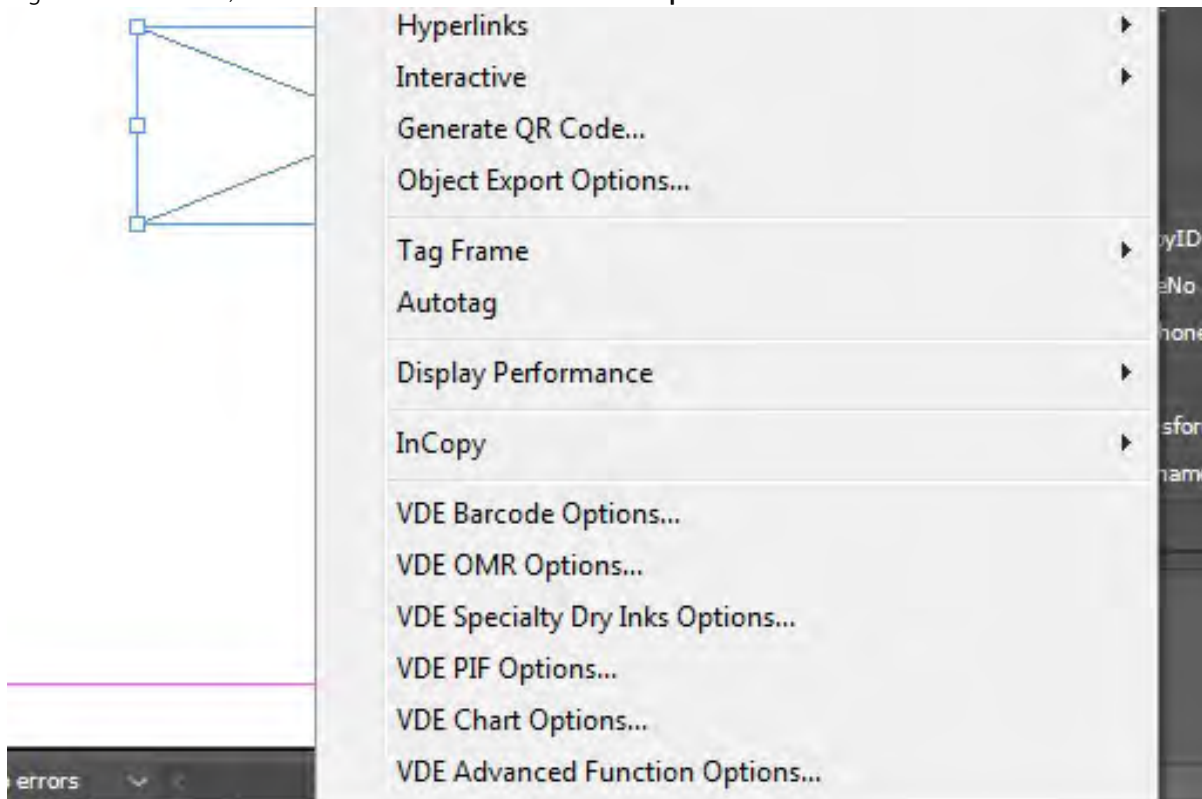
## Tagging an Advanced Function to a Frame

1. To tag an advanced function to a frame, in the Advanced Functions screen, click the advanced function that you want to add to a frame.
2. In the list, select **Execute this command > Insert in a frame**, then click **OK**.

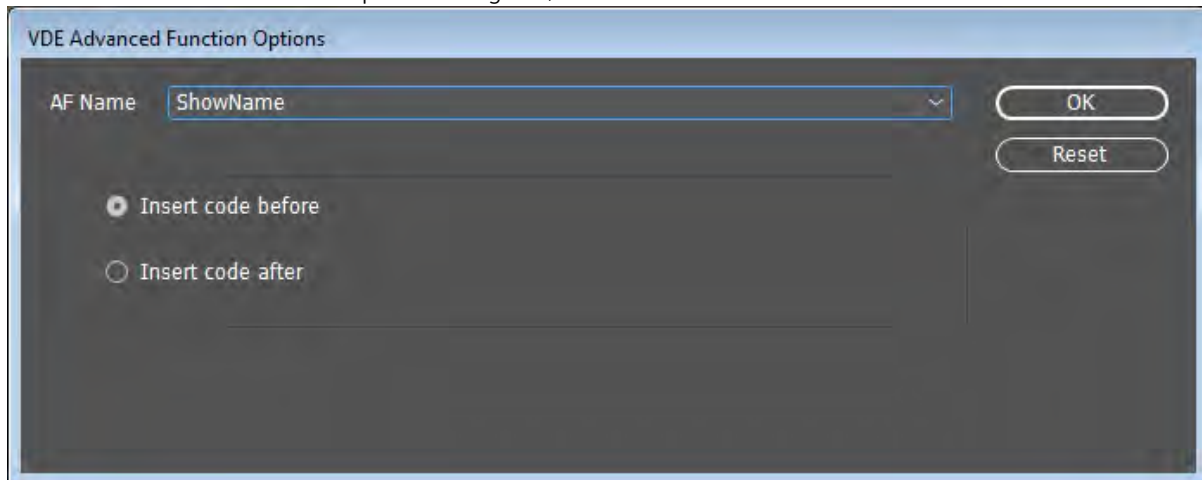


3. Select the frame where you want to enable the advanced function options.

4. Right-click the frame, then select **VDE Advanced Function Options**.



5. From the list, for the AF Name, select the APT Advanced Function that you want to associate to the document frame.
6. In the VDE Advanced Function Options dialog box, click **Insert code before** or **Insert code after**. Click **OK**.



## PLACING THE VIPP® CODE WITHIN THE JOB STRUCTURE

The following are the Custom Actions that determine where to place the VIPP® code within the job structure to create Advanced Functions in the Custom Actions execution context.

### At Start Of Job

When you use **At Start Of Job** option, the VIPP® command is placed in the JDT file of the VI Project Container and is executed at the start of job.

For example:

```
(Page #) 1 4 SETPAGENUMBER
```

### At Start Of Document

When you use the **At Start Of Document** option, the VIPP® command is placed inside the DBM file of the VI Project Container and is executed at the start of the document.

For example:

```
/NTMR 14 SETFONT
100 100 MOVETO
(Text to Display) SHL
```

### At End Of Document

**At End Of Document** option is similar to **At Start Of Document** option. When you use the **At End Of Document** option, the VIPP® command is placed inside the DBM file of the VI Project Container and is executed at the end of the document.

### At Start Of Each Page

When you use the **At Start Of Each Page** option, the VIPP® code is placed inside { . . . } BEGINPAGE, where BEGINPAGE defines actions to be performed at the beginning of each page.

Place the BEGINPAGE procedure before any marking commands, including the MOVETO command on the current page. If you place the BEGINPAGE command after a marking command, the BEGINPAGE command is not executed for the current page and is discarded by the PAGEBRK command at the end of the page.

For example:

```
IF CPCOUNT 2 eq {
/NCRB 0 SETFONT
}
ELSE {
/NCRB 20 SETFONT
}
ENDIF
```

### Before End Of Each Page

When you use the **Before End Of Each Page** option, the VIPP® code is placed inside { . . . } ENDPAGE.

ENDPAGE is used to define actions that the system performs at the end of each page, for example:

```
{
/NHE 20 SETFONT
11 15 MOVETO
```

```
(This is a sample text) SH  
} ENDPAGE
```

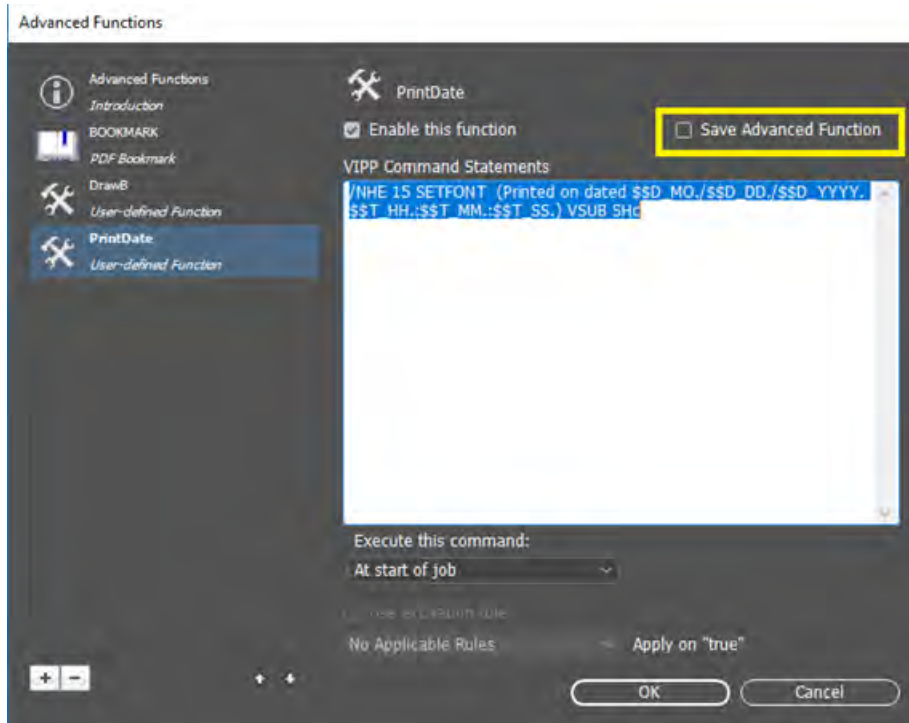
### After End Of Each Page

When you use the **After End Of Each Page** option, the VIPP® code is placed inside { . . . } /P ENDPAGE.

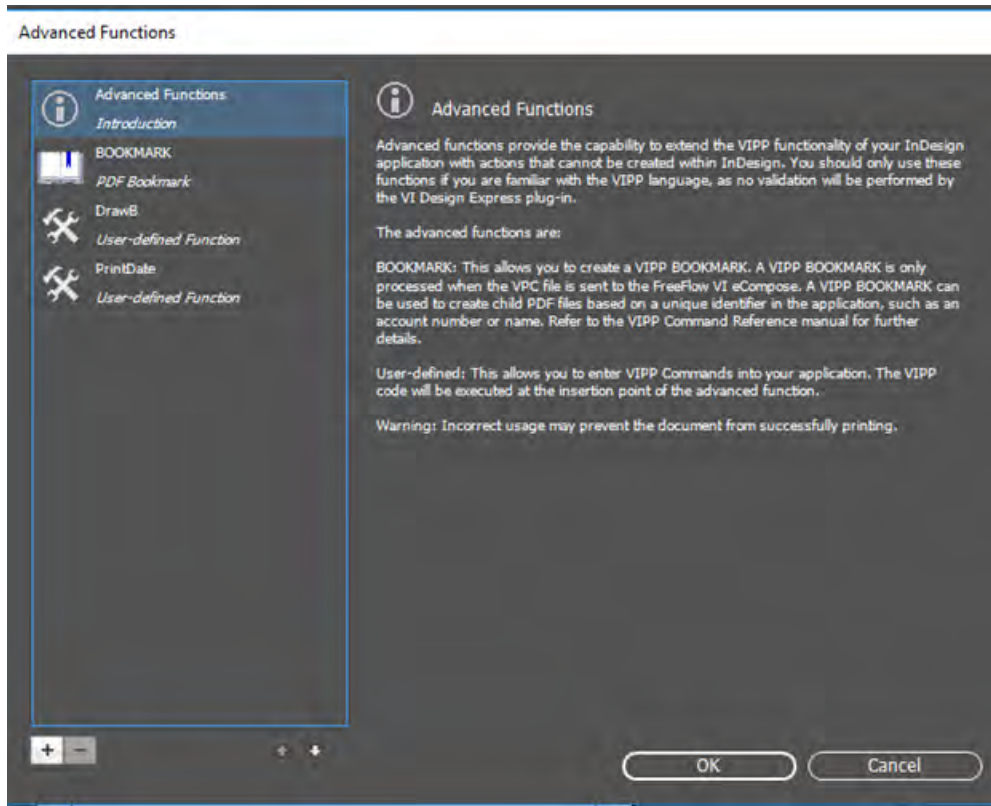
## Saving Advanced Functions

When you generate the VPC or PDF, Advanced Functions allow you to enter the VIPP® commands directly into the application during the export process. After you close InDesign, these advanced functions cannot be retained unless you explicitly export and import the VPC or PDF. The purpose of this feature is to save the advanced function globally for a specific device.

In the Advanced Functions panel, to save the advanced function permanently, select **Save Advanced Function**. You can disable this check box upon launch. After you enter the VIPP® code in the VIPP® Command Statements text area, the Save Advanced Function check box enables.

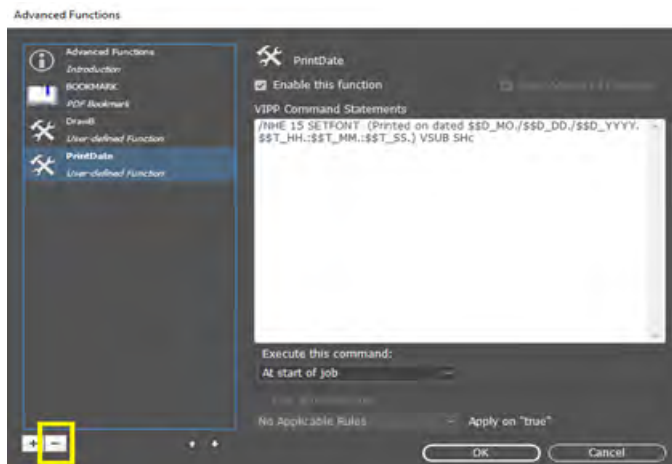


When you relaunch the application or create a document, the Advanced Function panel is populated with the saved advanced functions, as shown in the following figure:

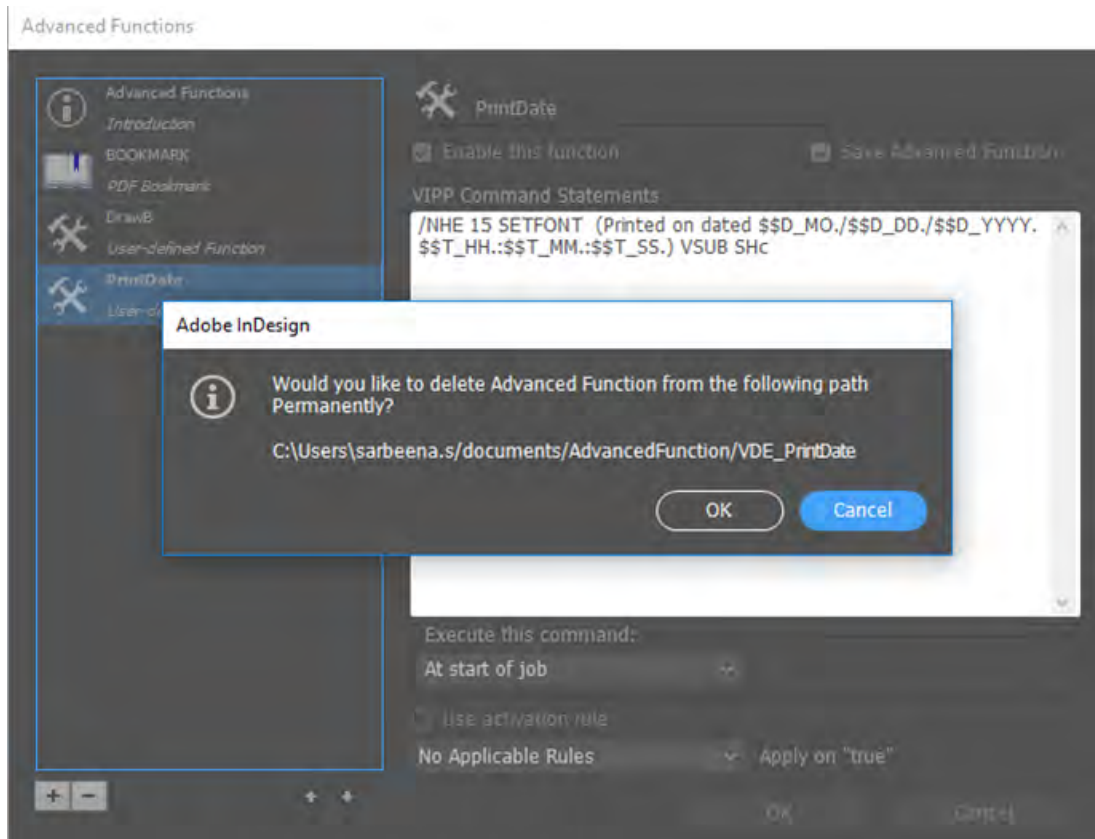


## DELETING SAVED ADVANCED FUNCTIONS

To delete saved advanced functions, click the delete - button, as shown in the following figure:

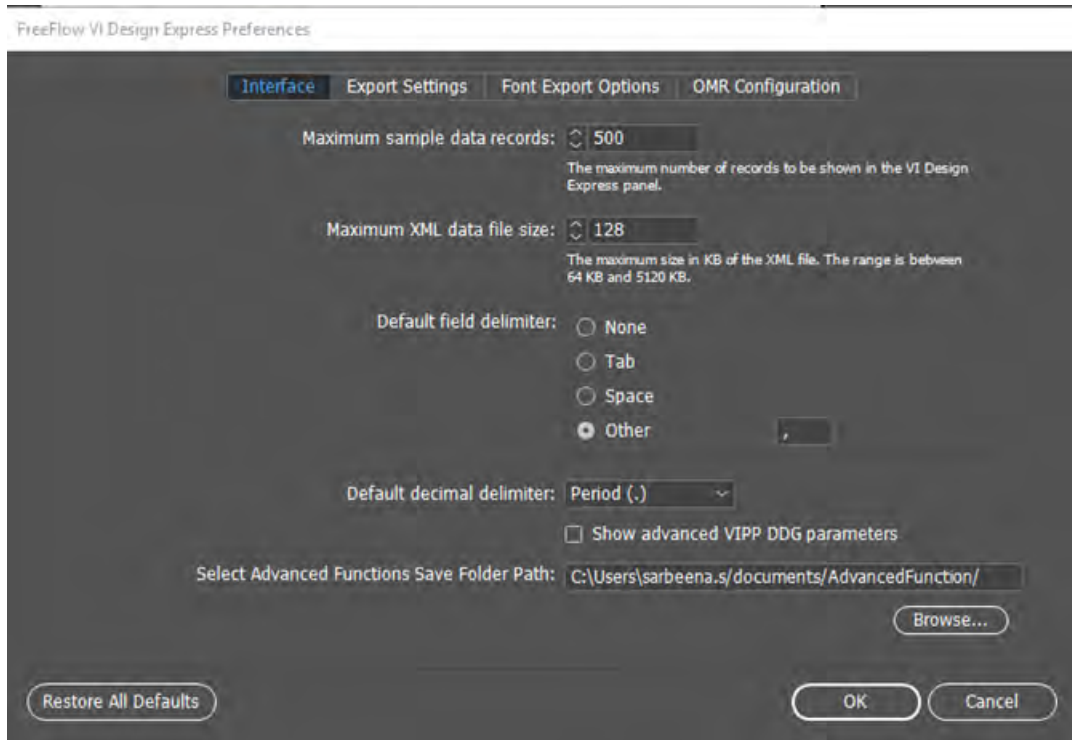


A prompt appears to confirm that you want to delete advanced functions from the saved path.



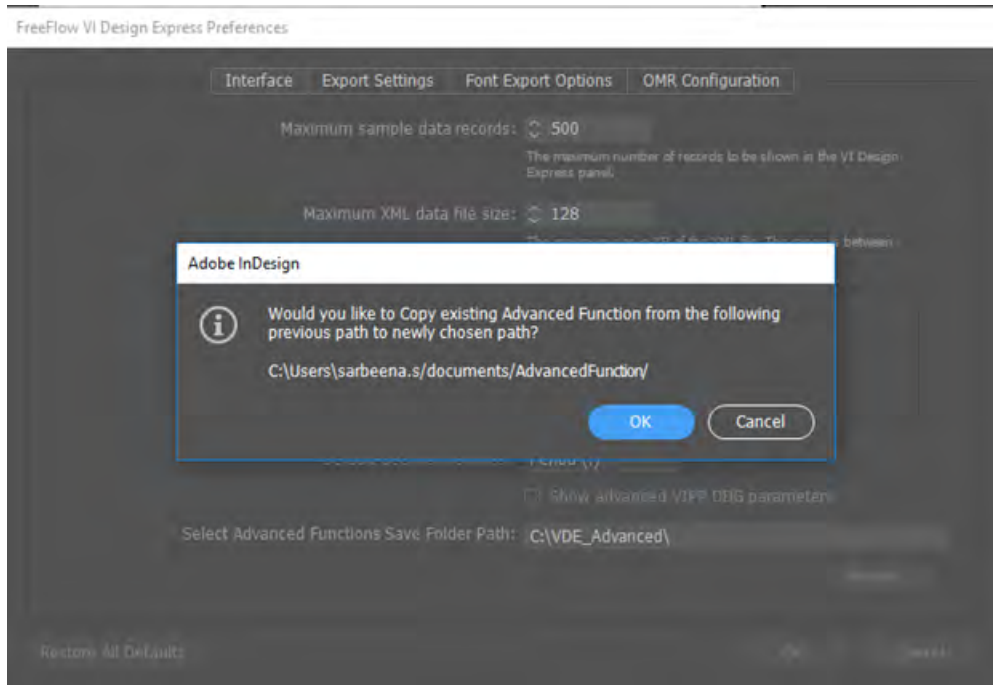
## SETTING THE PATH FOR SAVING ADVANCED FUNCTIONS

By default, the Advanced Function feature saves files to the `C:\Users\UserName\documents\AdvancedFunction` path. An Advanced Function folder is created in the `C:\Users\UserName\documents\` path. Each advanced function is saved to this path as separate .DAT files. The selected path appears in the FreeFlow VI Design Express Preferences dialog.



To change the path to the required location, click **Browse....**

A file open dialog box appears, where you can select the folder path. Click **Select Folder**. The selected path appears in the path text field. After you click **OK**, a prompt appears to confirm that you want to copy the existing saved advanced function to the new path shown, as shown in the following figure:



If you click OK, all the previously saved advanced functions are copied to the selected path. Any future advanced functions from InDesign are saved to this path.



## VIPP Job Submission to FreeFlow Core and getting status back from FreeFlow Core

### PREREQUISITES TO SUBMIT JOB TO FREEFLOW CORE

To submit VPC files to FreeFlow Core, the FreeFlow Core must have a valid Variable Data license installed. If you do not have a valid license, you need to contact your Xerox Sales representative to obtain a license file. Store the license file in a safe location on your system.

#### Enabling FreeFlow Core Job Submission during Installation

To submit the jobs from VDE to FreeFlow Core, you need to select the option for FreeFlow Core job submission during installation. After Installation, you need to restart the computer to run the service automatically.

#### Opening Port in FreeFlow Core Machine

Inbound and Outbound rules should be created for port 7751 in the machine where FreeFlow Core is installed, refer to [Setting Inbound and Outbound Rules](#).

#### Opening Port in VDE Machine

If Firewall is On, Inbound and Outbound rules should be created for listener port. If it is off, no need to create inbound and outbound rules for listener port. Refer to [Setting Inbound and Outbound Rules](#).

Default listener port is 8010. User can change the listener port in VPPconfig. file, if VDE does not show job status after job submission in FreeFlow Core Job Status Dialog. Inbound and Outbound rules should be created for the new port and service restart is required

#### Configure FreeFlow Core IP Address in Preferences Dialog

Go to the VDE menu bar and select **Preferences**, then select the **FreeFlow Core** tab. In DNS Name or IP Address option, enter the DNS name or IP address of the machine in which FreeFlow Core is installed.

### FREEFLOW VI DESIGN EXPRESS JOB STATUS SERVICE PORT CONFIGURATION

FreeFlow VI Design Express uses 4006 as default port to host the service.

To configure the port, perform the following steps:

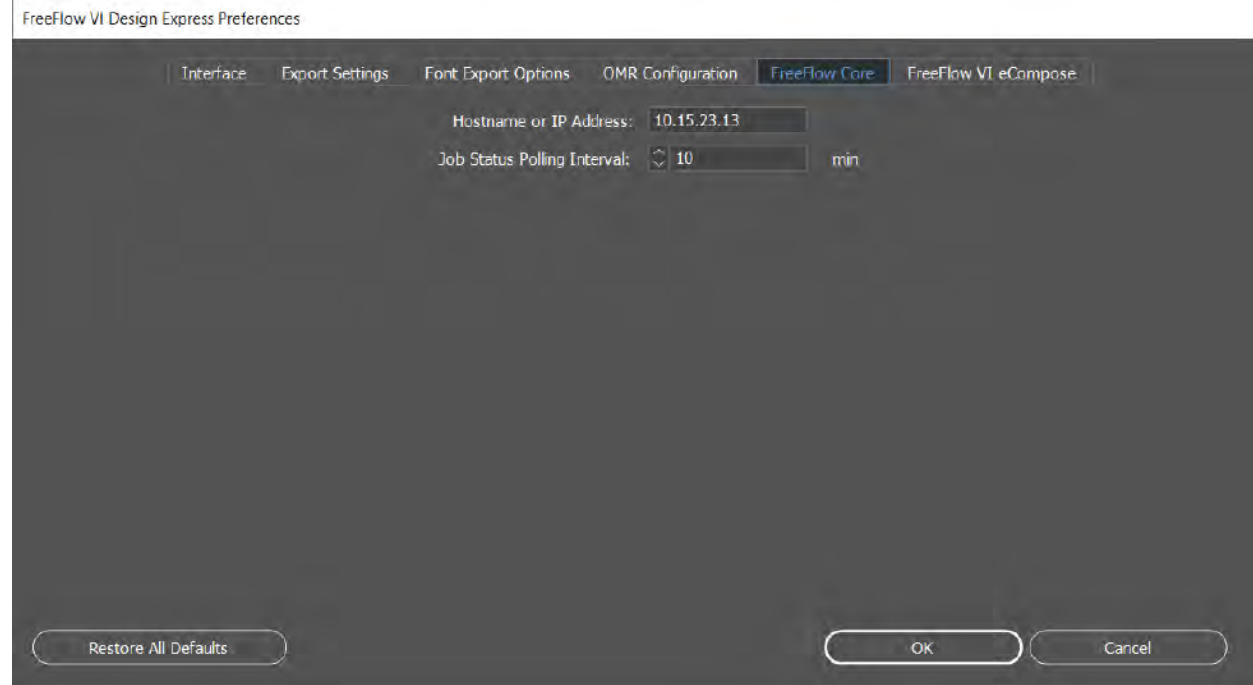
- Change the **VDEServicePort** value in `C:\ProgramData\Xerox\VIPP\VPP\VPPconfig.ini` file.
- Change the connector port value in `server.xml` file. In Windows, `server.xml` is located in `C:\Program Files (x86)\Xerox\VIPP\VDE\apache-tomcat-9.0.71\conf\server.xml`. In macOS, `server.xml` is located in `/Applications/Xerox/VIPP/VPP/apache-tomcat-9.0.71/conf/server.xml`.
- Restart the computer or service to run the service using new port.

#### Job Status for Polling Interval

This option updates the job status and also delete the jobs which are deleted in Xerox® FreeFlow Core. Default value is 10 minutes which can be modified to get the job status according to the given time interval.

## FREEFLOW CORE TAB IN PREFERENCES PANEL

FreeFlow Core tab defines the configuration of the FreeFlow Core job submission and job status. FreeFlow Core tab has three settings.



### DNS Name or IP Address

DNS Name or IP Address of the machine in which FreeFlow Core is installed should be entered in this option.

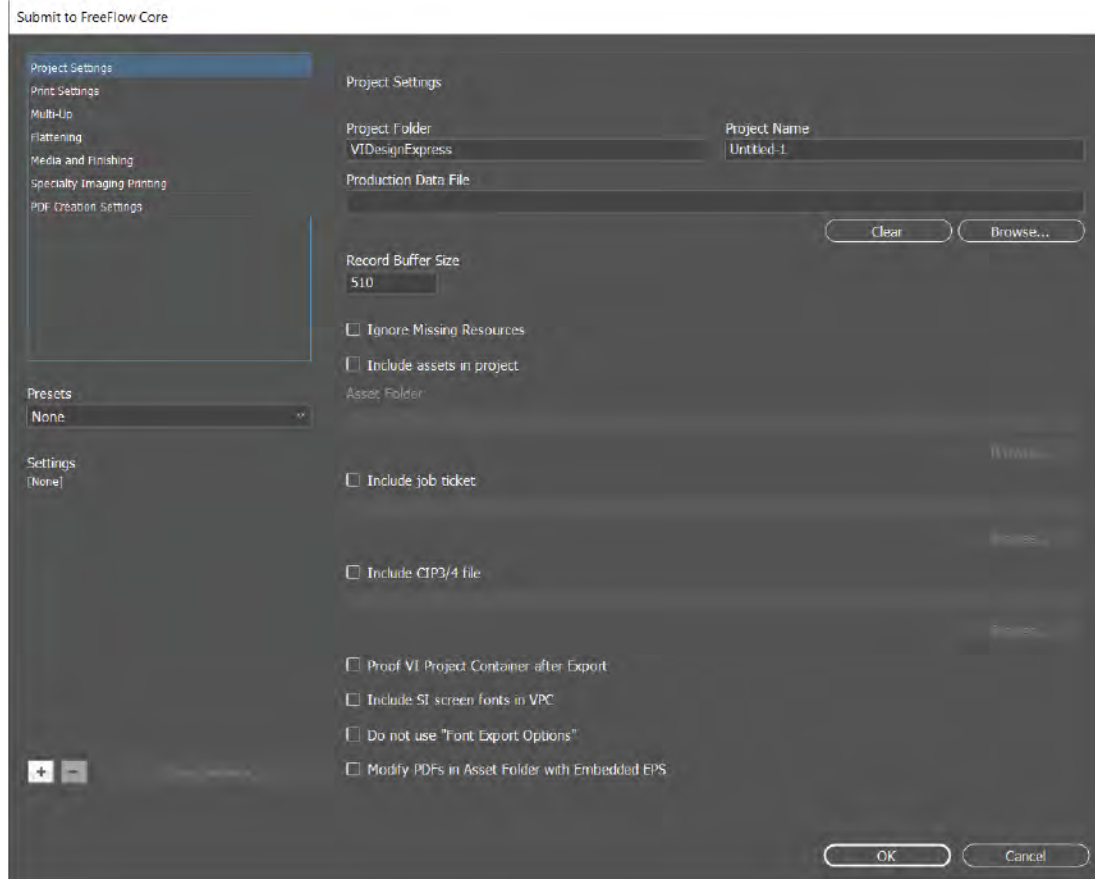
### Job status for Polling Interval

This option sets the default interval for polling deleted jobs at FreeFlow Core. Default value is 10 min. Allowable range is 1-60 min.

## SUBMIT JOB TO FREEFLOW CORE

Click the **Submit to PDF Server** button next to the **Select PDF Server:** menu in the VDE panel. The Submit to FreeFlow Core dialog appears. To determine which button to use, allow the cursor to hover over any of the buttons on the VDE panel. A tool tip is displayed.

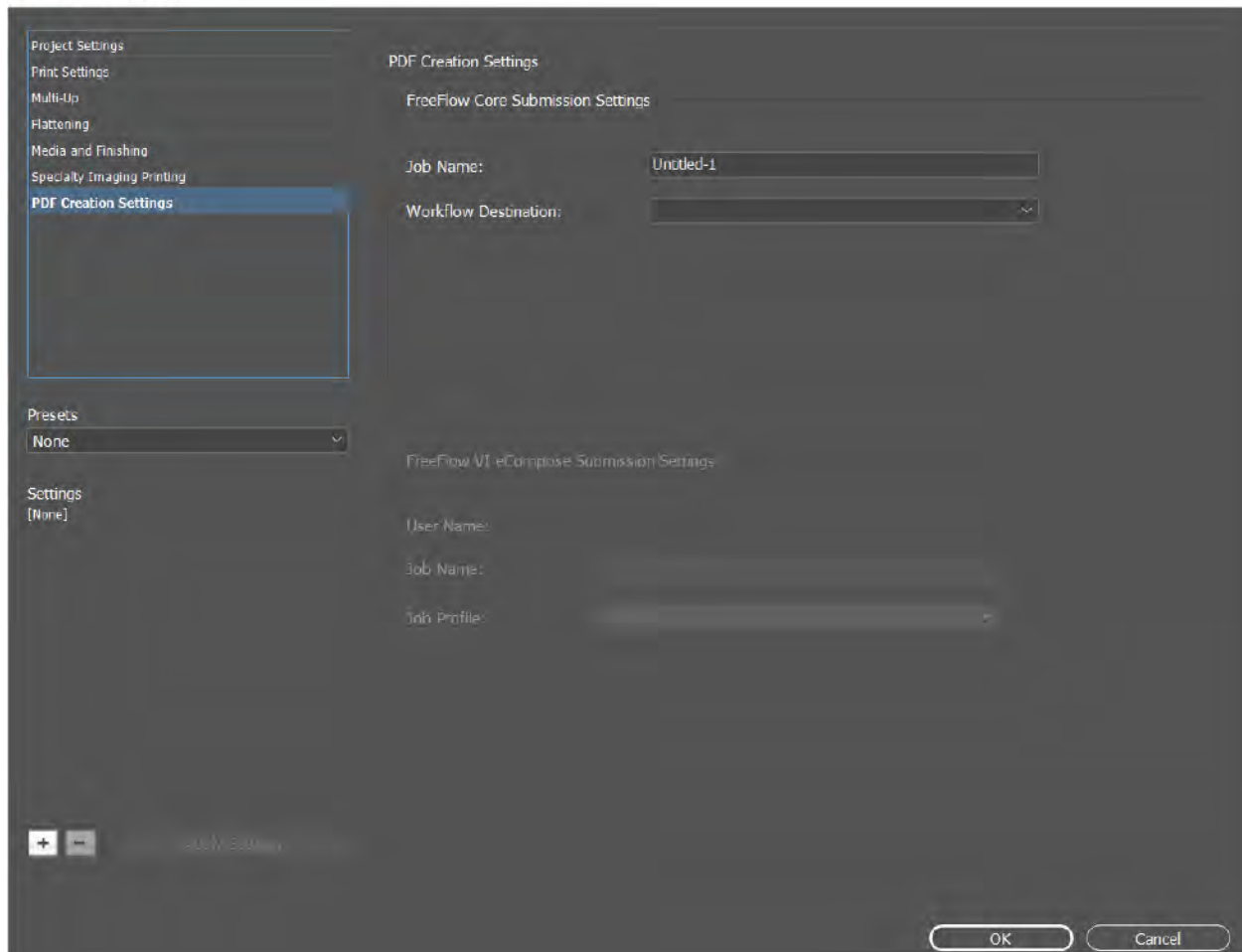
Except PDF Creation Settings, other panels can be configured similar to Create VI Project Container panel.



## FREEFLOW CORE SUBMISSION SETTINGS

The FreeFlow Core Submission Settings panel consist of these options

Submit to FreeFlow Core



### Job Name

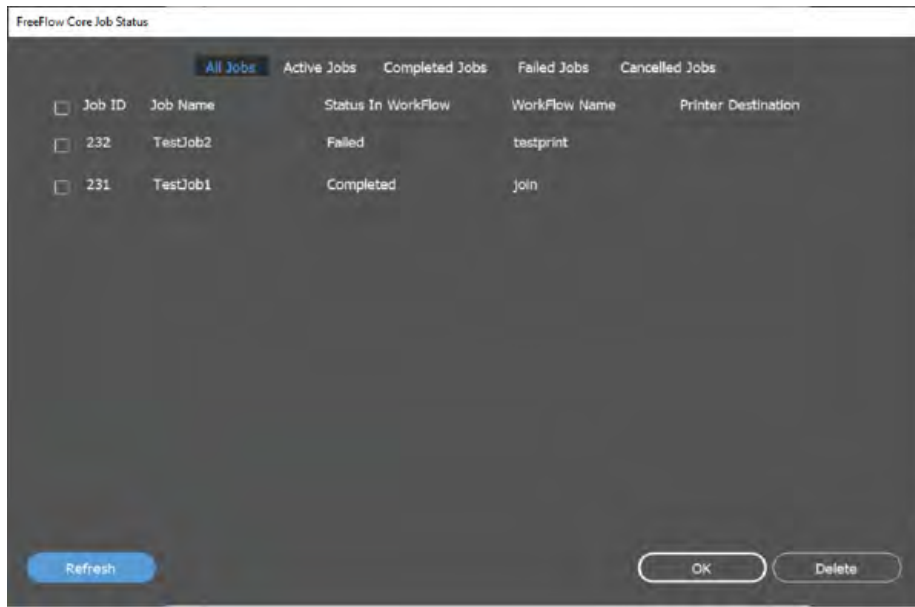
Name of the job which sent to FreeFlow Core. This job name is shown in VDE and FreeFlow Core UI. The default job name is the InDesign file name.

### Workflow Destination

Lists the workflows from the FreeFlow Core to which the job will be sent. Click **OK** button to submit vpc file to the selected FreeFlow Core workflow destination.

## FREEFLOW CORE JOB STATUS

Click the **PDF Server Status** button next to the **Select PDF Server:** menu in the VDE panel, the FreeFlow Core Job Status dialog appears. To determine which button to use, allow the cursor to hover over any of the buttons on the VDE panel. A tool tip is displayed.



Note: The jobs submitted from VDE to FreeFlow Core is shown in FreeFlow Core Job Status dialog box.

### Refresh

To update the status of jobs in all the tabs in FreeFlow Core Job Status, click this button

### Auto Refresh

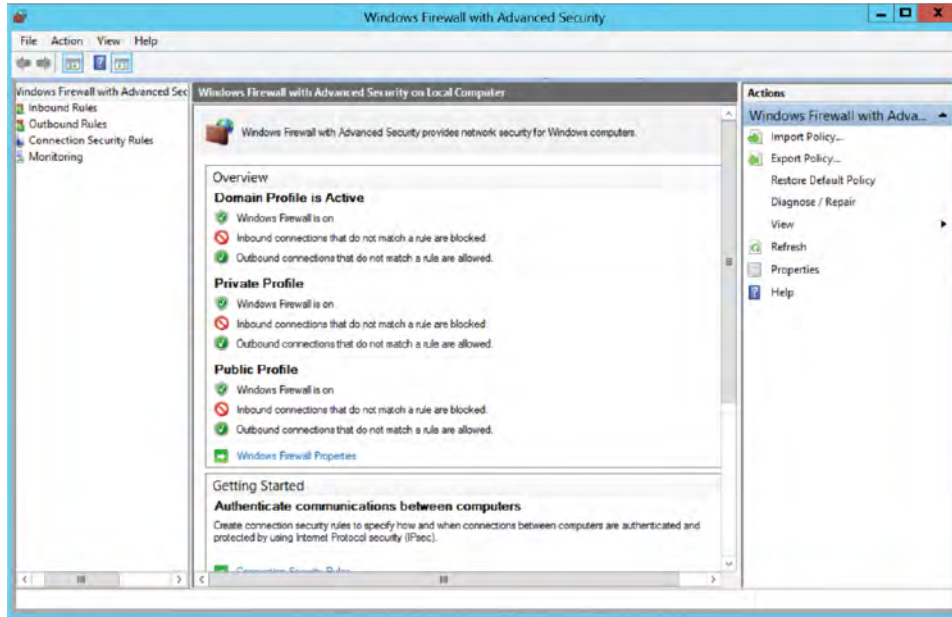
VDE updates the job status in all the tabs for every 1 min by default. Auto refresh interval can be configured in **Preferences > FreeFlow Core**.

### Delete

To delete the selected jobs from VDE UI, click this button. The selected jobs will not be deleted in FreeFlow Core.

## SETTING INBOUND AND OUTBOUND RULES

Open **Windows Defender Firewall with Advanced Security**. If the Domain Profile Windows Firewall is On, you need to set the inbound and outbound rules for the listener port.



### Creating an Inbound Port Rule

1. Open the Group Policy Management Console in Windows Defender Firewall with Advanced Security.
2. In the navigation pane, click **Inbound Rules**.
3. Click **Action**, and then click **New Rule**.
4. On the Rule Type page of the New Inbound Rule Wizard, click **Port > Next**.
5. On the Protocol and Ports page, select TCP and Specific local ports option. Enter the port (Listener port at VI Design Express installed machine or 7751 port at FreeFlow Core installed machine) and then click **Next**.
6. On the Action page, select **Allow the connection**, and then click **Next**.
7. On the Profile page, select **All** and then click **Next**.
8. On the Name page, type a name and description for your rule, and then click **Finish**.

### Creating an Outbound Port Rule

1. Open the Group Policy Management Console to Windows Defender Firewall with Advanced Security.
2. In the navigation pane, click **Outbound Rules**.
3. Click **Action**, and then click **New Rule**.
4. On the Rule Type page of the New Inbound Rule Wizard, click **Port > Next**.
5. On the Protocol and Ports page, select TCP and Specific local ports option. Enter port (Listener port at VI Design Express installed machine or 7751 port at FreeFlow Core installed machine) and then click **Next**.
6. On the Action page, select **Allow the connection**, and then click **Next**.
7. On the Profile page, select **All** and then click **Next**.
8. On the Name page, type a name and description for your rule, and then click **Finish**.

## Submit Job to FreeFlow VI eCompose

### PREREQUISITES TO SUBMIT JOB TO FREEFLOW VI ECOMPOSE

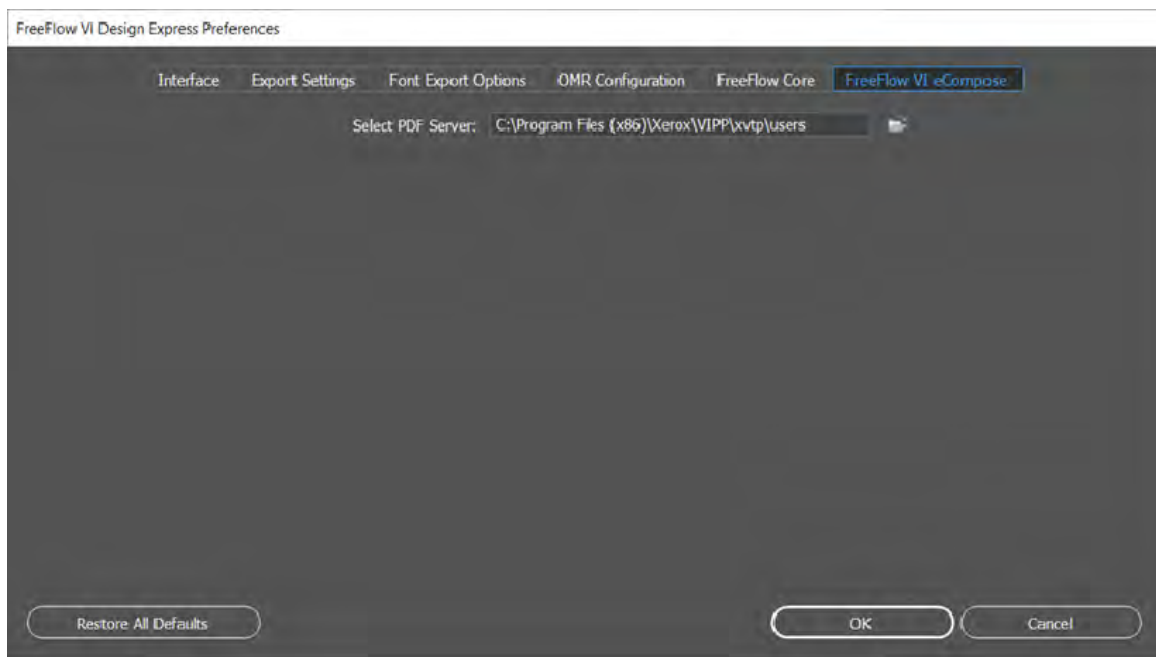
#### Configure FreeFlow VI eCompose User Root in Preferences Dialog

Go to the VDE menu bar and select **Preferences**, then select the **FreeFlow VI eCompose** tab. In Select PDF Server option, enter or browse the root directory of VI eCompose users on the VI eCompose server.

### FREEFLOW VI ECOMPOSE TAB

FreeFlow VI eCompose tab defines the configuration of the FreeFlow VI eCompose job submission and job status.

FreeFlow VI eCompose tab has below setting.

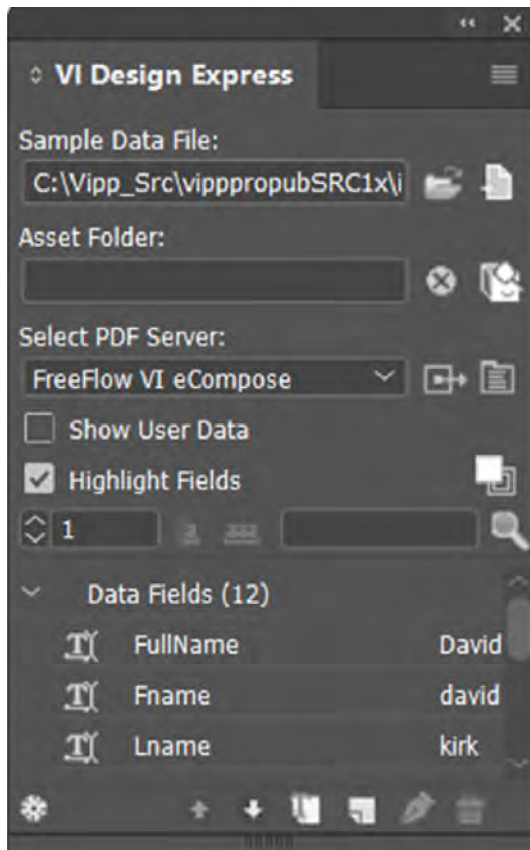


In Select PDF Server option, enter or browse the root directory of VI eCompose users on the VI eCompose server.



Note: Ensure that the login user name has user account in the VI eCompose server. For more details, contact the VI eCompose administrator.

## SUBMIT TO FREEFLOW VI ECOMPOSE



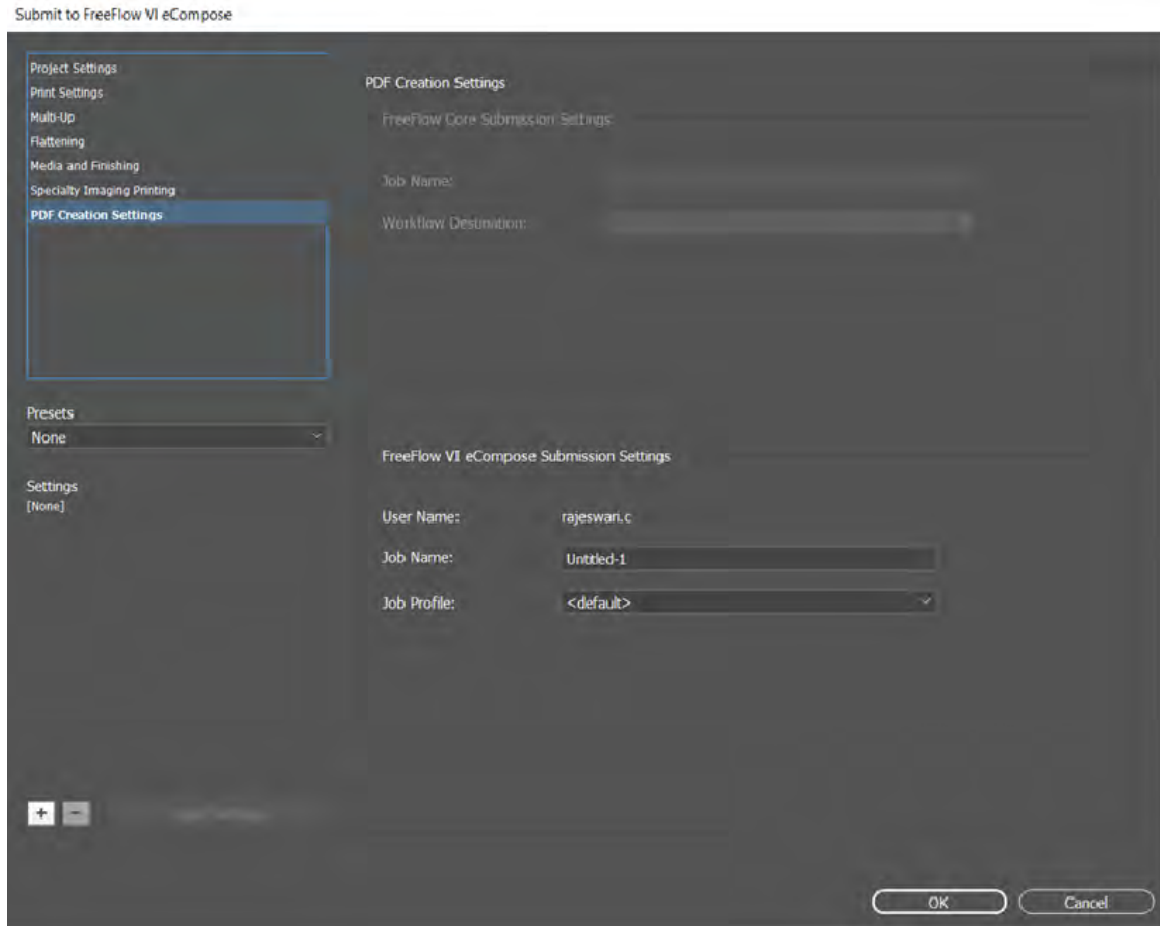
Click the **Submit to PDF Server** button next to the **Select PDF Server:** menu in the VDE panel. The Submit to FreeFlow VI eCompose dialog appears. To determine which button to use, allow the cursor to hover over any of the buttons on the VDE panel. A tool tip is displayed.

Except PDF Creation Settings, other panels can be configured to Create VI Project Container panel.

## FREEFLOW VI ECOMPOSE SUBMISSION SETTINGS

The FreeFlow VI eCompose Submission Settings panel is part of PDF Creation Settings tab and consists of following options:





### User Name

User name field is default field.

It is derived from the OS login user name.

### Job Name

Name of the job which is sent to FreeFlow VI eCompose. This job name will be shown in VDE and FreeFlow VI eCompose user interface. By default, job name is the InDesign file name.

### Job Profile

Lists the job profiles from the FreeFlow VI eCompose to which the job can be sent.

To submit vpc file to the FreeFlow VI eCompose server, click **OK**.

## FREEFLOW VI ECOMPOSE JOB STATUS

Click the **PDF Server Status** button next to the **Select Server Destination for PDF Creation** menu in the VDE panel. The FreeFlow VI eCompose Job Status dialog appears. To determine which button to use, allow the cursor to hover over any of the buttons on the VDE panel. A tool tip is displayed.

FreeFlow VI eCompose Job Status

<input type="checkbox"/> Job Name	Job Status		Pages Distilled	Pages Split	Files Generated
<input type="checkbox"/> MN_Test_vpc_2022_12_08_19_40_48_144	Splitting...	i	1200 pages...	135 pages...	135 files...
<input type="checkbox"/> MN_Test_vpc_2022_12_08_16_21_44_020	Complete	i	1200 pages distilled	1200 pages split	1200 files generated
<input type="checkbox"/> VDE_Test_vpc_2022_12_07_19_46_41_817	Complete	i	1200 pages distilled	1200 pages split	1200 files generated
<input type="checkbox"/> Brazil_Test_vpc_2022_12_02_11_39_22_261	Cancelled	i	1200 pages distilled	363 pages split	363 files generated
<input type="checkbox"/> MN_Lang_Test_vpc_2022_12_01_23_53_36_194	Failed	i	0 pages distilled	0 pages split	0 files generated
<input type="checkbox"/> Win_Samp_1_vpc_2022_12_01_23_49_57_704	Failed	i	0 pages distilled	0 pages split	0 files generated
<input type="checkbox"/> Win_Samp_vpc_2022_12_01_23_47_50_255	Failed	i	0 pages distilled	0 pages split	0 files generated

The jobs submitted from VDE to FreeFlow VI eCompose will be shown in FreeFlow VI eCompose Job Status dialog.

### Refresh

Click this button to update the status of jobs in FreeFlow VI eCompose Job Status.

### Cancel Selected Job

Click this button to cancel the selected job from submitting to the FreeFlow VI eCompose server.

# Data Transforms

This chapter contains:

Create Data Transform Panel .....	272
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Arithmetic Expressions .....	280
Creating an Arithmetic Expression Data Transform.....	281

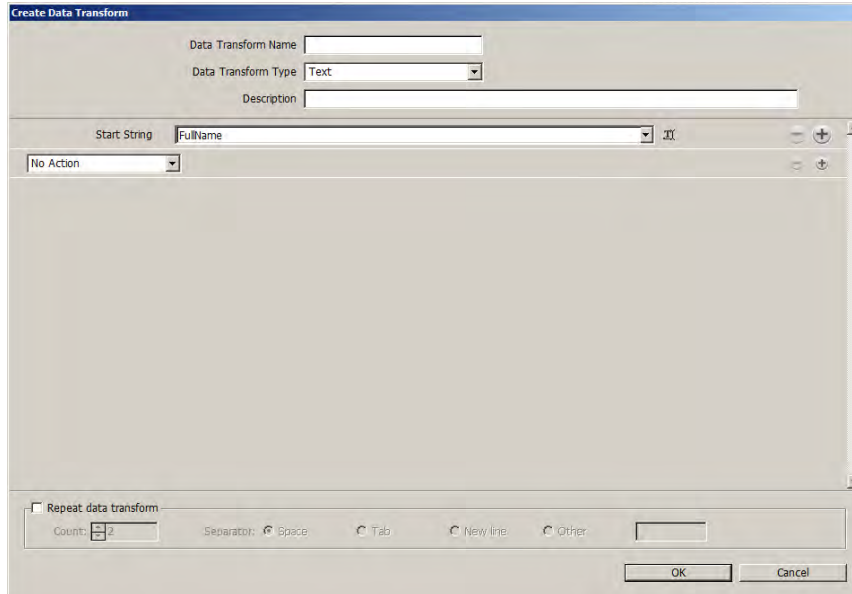
Data Transforms allow the application of data transformations and formatting options to text in the document. For example, Title Case transforms can be applied to Name and Address data to ensure that the first letter is always capitalized; or, currency symbols and delimiters can be added to a numeric value, while also controlling the number of decimal places shown.

Data Transforms can contain one or more entries. Each entry contains a start string and one or more actions. Each action has an action selector list, and controls for additional information as required by the selected action. The list of actions contains seven actions, and *No Action*. VDE evaluates each entry individually first start string to first action, result of first action to second action, and so on, then the resulting strings from all the entries are concatenated.

There is a maximum number of Data Transforms that can be defined in a document. This limit depends upon the length of each data transform definition, the number of data file fields, and on the length of each field name. Xerox recommends that you:

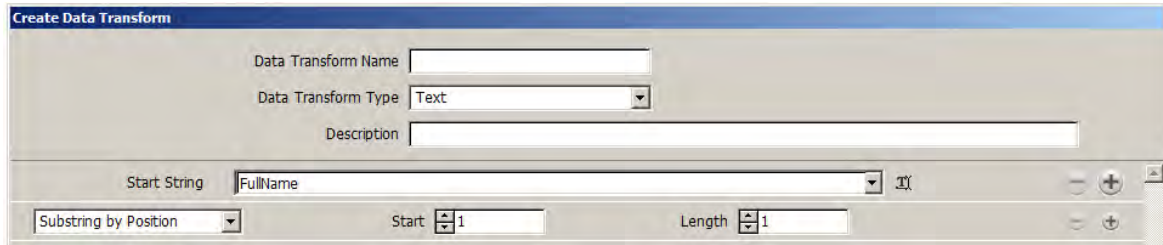
- keep the names of the data transforms short
- minimize the number of "actions" in each data transform.

## Create Data Transform Panel

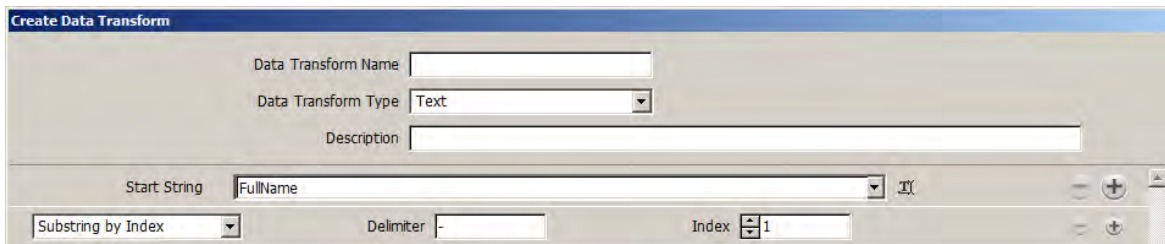


The Create Data Transform panel consists of these fields and their corresponding options:

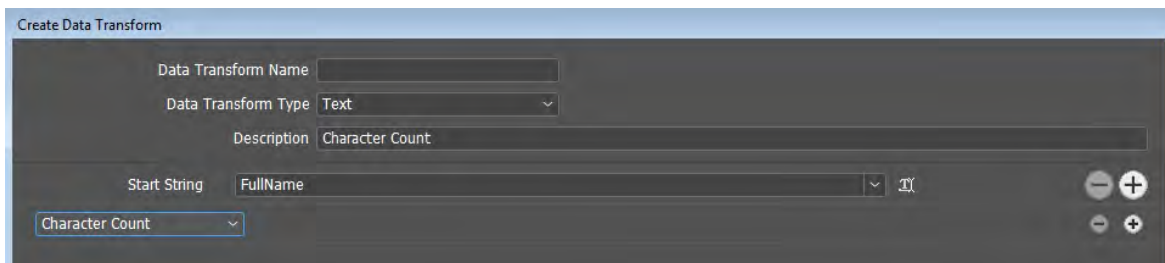
- **Data Transform Name:** Enter a name for the data transform.
- **Description:** To describe the purpose of the data transform for future reference, enter information in this field.
- **Data Transform Type:** Select an option:
  - **Text**
  - **Text File**
  - **Graphic File**
- **Start String:** The data file populates the data field names.
- **Actions:** Actions options determine how VDE handles the data in the start string.
- **No Action:** When you select this option, no action is applied to the field. Often, the No Action option is used to concatenate two or more data fields. For example, when building a complex string to use in a Barcode option, you can concatenate the first name, space character, the last name, and so on.
  - **Title case:** When this option is applied to a field that contains text data, VDE capitalizes the first character of every word after a space, and changes the remaining words to lowercase. One use of the Title case transform ensures that fields, such as a name and address, are printed using the correct capitalization.
  - **Upper case:** When this option is applied to a field that contains text data, VDE capitalizes all characters in the text string.
  - **Lower case:** When this option is applied to a field that contains text data, VDE changes all characters to lowercase in the text string.
  - **Substring by position:** This option allows a string split. Specify a start position and the number of characters needed. For example, in the string 18002759376, the country code or exchange number can be extracted using the Substring by position option. If you specify a start position of 1 for a length of 1, the character 1 is extracted. If you specify a start position of 2 and a length of 3, the area code is extracted.



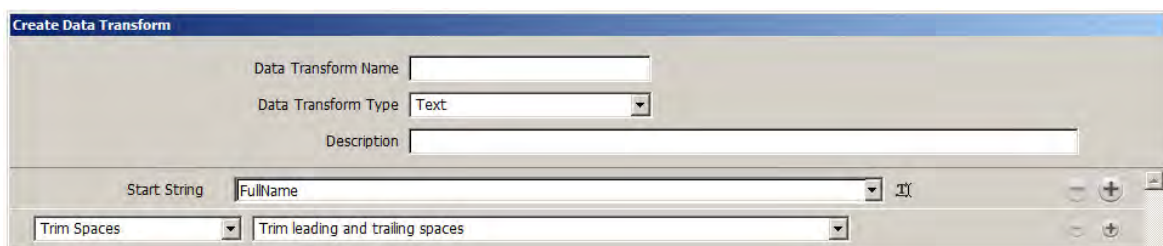
- **Substring by index:** This option is useful when the data to extract information from has a delimiter. For example, if the telephone number 1-800-275-9376 is the string, the – character can be used as a delimiter. If you select the – character as the delimiter, and select index 1, character 1 is extracted. If you use the same delimiter and select an index value of 4, the characters 9376 are extracted.



- **Character Count:** This option returns the number of characters present in the given text string. You can use the Character Count feature after Trim Spaces, which trims the unwanted space character and returns only the required character count.



- **Trim Spaces:** This option deletes unwanted leading and trailing spaces from a text string. You can use the Trim Spaces feature to delete duplicate space characters inside a text string. This feature can be useful if the data contains unwanted space characters.



- **Record Counter:** This option allows the entry of a starting value followed by the selection of an increment value. The starting value must be numeric and between -999999999 and 999999999, including 0. The increment value can be a positive or negative number between -9999 and +9999, and can include 0. Use the **Record Counter** feature to create ticket numbers, and so on. The counter increments for every record change, not for every instance of that record printed. For example, the record counter counts the number of times the job changes from one record to another. If a single record is repeated many times, the counter is not incremented. The Record Counter option creates a counter data transform. The value in the counter can

increase or decrease by a given amount for each record processed. It is important to note that the counter increments on a per record basis. You can use this mechanism for serial numbers, ticket numbers, and so on.


When you use the Record Counter option, you can use the following parameters.

### Start String

This parameter has a different function than in other transform expressions. Start String is used to prefix the incremental value with a string. For example, an incremental value can be prefixed with the text string, `TicketNumber`. This field can be a value contained in a field, or can be left blank.

### Base

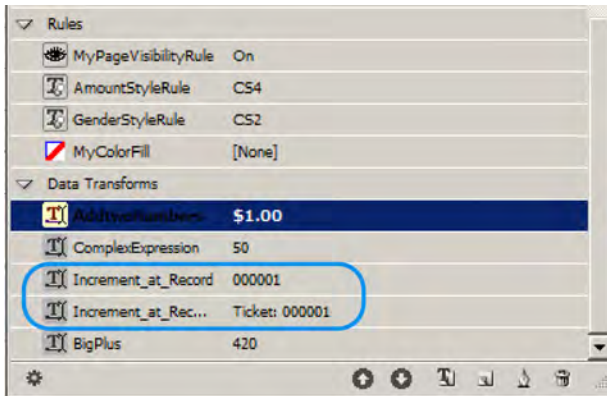
This value is the starting numeric value and can be any numeric value.


 Note: Use integers only for both Base and Increment values.

### Increment

The increment value is the value that is added to the base value each time a new record is processed. For example, if the incremental value is set to 1, the result of this data transform increases by 1 every time a new record is processed. If the Increment value is set to 10, the value increments by 10. Negative numbers can be used to lower the resulting value. In the example, the Start String field is empty, the Base value is set to 0, and the Increment value is set to 1. These values result in a field that increments by 1 for each record processed. Because the Start String field is empty, no prefix string is added to the value.

To edit the data transform, in the Start String field, add a string, such as `Ticket :`.



 Note: Do not use Export function Record Range to reprint a subset of a data file where a record counter is used. Unpredictable results can occur, unless the job is edited and Record Counter Base is reset to reflect an accurate value for the starting record used in the Record Range Export option. For example, in a 10-record job with a base value of 1, using the record range to reprint records 5 through 10, unless the job is edited and the starting base value is reset to 5, the record counter is incorrect for the records reprinted.

### Keep leading zeros


To retain leading zeros, select the check box. To suppress leading zeroes, clear the check box.

### Repeat Counter

This feature is similar to Record Counter, but Repeat Counter increments for each instance of the record being printed. For example, if the record is repeated five times, the counter value increments five times. To reset the counter to the initial value when a new record is encountered, select the **Reset** check box. To continue the increment through new records, clear the **Reset** check box. For example, you can use the counter if you want to print 100 raffle tickets with a sequential number, but have only one data record. To repeat the record 100 times, print the raffle tickets using the Repeat Counter and the Record Repeat options.

### Numeric Format

When Numeric Format is applied to a field that contains numeric strings, VDE formats the numbers within the field. A mask is created using characters, some of which have special functions on the keyboard, which controls how the numeric string is printed. For example, when a mask is applied to the numeric string 18002759376, it can be printed as a telephone number: 1-800-275-9376, as a currency string: \$180,027,593.76, or as a numeric value: 180,027.59376 or 180,027, dropping the decimal digits. For more information about the format feature, refer to [User input masks](#).

 Note: The decimal and thousands delimiters used in the United States and Europe are different from each other. Ensure that you select the correct delimiter for your location.

From the list, select a delimiter option:

- US format
- US format without decimal delimiters
- EU format
- EU format without decimal delimiters
- No format punctuation

When you select a decimal option, and the numeric string has no decimal numbers in it, VDE adds .00 to the



numeric string.

### Hex Data to Text

Hex Data to Text is a transform option that transforms a string of hex data values to a string of regular text. Typically, this option is used to pass variable data to some barcode functions.

An example is a transform that converts the string 4142434445 to the text string ABCDE.



Note: No validation is performed on the input string, so the user is responsible for ensuring that the strings are valid, because the conversion occurs at run time at the print device. InDesign cannot display hex code values below 0x20 or above 0x7e correctly.

### Addition

The Addition expression takes two numeric values, either a field that contains numeric data or a user-defined numeric value, then adds them together. The resulting numeric value is the result of the expression. You can use the resulting value as the input value to a follow-on expression in a compound data transform. For more information, refer to [Arithmetic Expressions](#) and [Creating an Arithmetic Expression Data Transform](#).



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Subtraction

The Subtraction expression takes two numeric values, either a field that contains numeric data or a user-defined numeric value, then subtracts the second value from the first. The resulting numeric value is the result of the expression. You can use the resulting value as the input value to a follow-on expression in a compound data transform. For more information, refer to [Arithmetic Expressions](#) and [Creating an Arithmetic Expression Data Transform](#).



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Multiplication

The Multiplication expression takes two numeric values, either a field that contains numeric data or a user-defined numeric value, then multiplies the first value by the second value. The resulting numeric value is the result of the expression. You can use the resulting value as the input value to a follow-on expression in a compound data transform. For more information, refer to [Arithmetic Expressions](#) and [Creating an Arithmetic Expression Data Transform](#).



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Division

The Division expression takes two numeric values, either a field that contains numeric data or a user-defined numeric value, then divides the first value by the second value. The resulting numeric value is the result of the expression. You can use the resulting value as the input value to a follow-on expression in a compound data



transform. For more information, refer to [Arithmetic Expressions](#) and [Creating an Arithmetic Expression Data Transform](#).



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Remainder

The Remainder (Modulo) expression uses two numeric operand values. Ensure that both values are integers.

Both operands contain either a field that contains numeric data, or a user-defined numeric value.

The value of the first operand is divided by the value of the second operand. The remaining integer is the remainder of the expression. For example, if 10 is divided by 3, the resulting remainder is 1. That is, 3 goes into 10 three times, which totals 9. Subtract 9 from 10, and the remainder is 1.

Ensure that both values for remainder are integers only. The second operand cannot be zero.

For more information, refer to [Arithmetic Expressions](#) and [Creating an Arithmetic Expression Data Transform](#).



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Summation

The Summation expression is an option intended for use in a Prefixed Delimited Transactional Data application. The intended use is to calculate the total sum of all the values in a multi-occurrence data object. It is applicable to a column of values that belong to a multi-occurrence data object in a Prefixed Delimited Transactional Data document. For example, you can use the Summation option in a telephone billing statement to show the total cost of the values entered in a column that contains the cost-per-call values.

Using Summation outside of the Prefixed Delimited Transactional Data application is not recommended because the action returns the single value identified in the Start String option.



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Rounding

The Rounding expression applies a rounding algorithm to a numeric value, either a field that contains numeric data or a user-defined numeric value. Rounding is based on the value set by the slider for the rounding action.

The Rounding expression uses the rounding-half-up method. For example, when 123.456 is set to round at the second decimal digit, the result is 123.46.



Note: Arithmetic expressions are limited to 25 integer and 15 decimal digits.

### Repeat Data Transform

The Repeat Data Transform option is used to repeat the evaluation of the data transform a specified number of times. For example, if the result of the data transform, before enabling this option, was the text string Dave Kirk, then by applying the Repeat Data Transform function with a repeat value of 3 and a delimiter of ~, the resulting string looks like this: Dave Kirk ~ Dave Kirk ~ Dave Kirk. The delimiter is not added to the end of the string.

You can use the Repeat Data Transform option with any standard font and apply the option to the Specialty Imaging Micro text, where it is recommended to repeat a text string always. Ensure that the repeat value is between 2 and 10,000.


### Count values and printer performance

Avoid using high repeat data transform count values, because this can affect printer performance.

### Support

This option is not supported with Specialty Imaging, GlossMark, or Correlation Mark fonts.

### Repeat data transform

A screenshot of a software dialog box titled "Repeat data transform". It features a checked checkbox at the top left. Below the checkbox, there is a "Count:" label followed by a numeric input field containing the value "2". To the right of the count field is a "Separator:" label followed by four radio button options: "Space", "Tab", "New line", and "Other". The "Space" option is selected. To the right of the "Other" option is an empty text input field.

Although it is possible to use a transform with a Repeat Data Transform function as input to another data transform, it is not recommended, due to large repetitive actions that can be created. When you select the check box for the **Repeat data transform**, enter the number of times the data repeats, then select or define the separator type.

## User Input Masks

When the Format option is selected, a user-defined mask is required. A mask controls how the data prints on the page and appears on the screen. In general, any character can be used as a masking character, however, some characters have a special function. Two of these characters are described as follows:

@	The @ character is a placeholder for a numeric character, 0–9. When you create a mask, it is important to insert enough @ characters to account for the longest numeric string that is printed. If you enter more characters than necessary, it is better than not having enough. The @ masking character tells VDE that if a numeric value is present at this position in the string, to print it, otherwise print nothing.
#	The # character is a position character for required numeric characters, 0–9. If a numeric value is not present for that position, a zero is substituted.

Using the combination of both characters enables powerful formatting capability. The following are some examples of user-defined masks and the result of those masks on the numeric text string 76893485.

MASK	RESULT	NOTE
@@,@@@,@@@, @@@	76,893,485	Although there are placeholder characters, they are ignored when no numeric data is available, and nothing prints.
##,###,###,###	00,076,893,485	Because the # character is a required character placeholder, a zero is inserted when no other value is present.
@@,@@@,@@@,@@#	76,893,485	Although this example is similar to the first example, if no numeric data is available, a zero prints in the space.
@@,@@@,@@@. @@@	76,893.485	A period was inserted, which adds a decimal delimiter. Here there are three decimal places.
@@,@@@,@@#.##	76,893.48	This mask limits the decimal places to two characters.
\$@@,@@@,@@#.##	\$76,893.48	This mask has limits similar to the one above, but the \$ character was added for currency.

The following table contains some other common numeric string formatting masks, this time for the telephone number 8002759376:

MASK	RESULT
@@@-@@@-@@@@	800-275-9376
(@@@) @@@-@@@@	(800) 275-9376
1 (800) @@@-@@@@	1 (800) 275-9376
@@-@@-@@-@@-@@	80-02-75-93-76

## Arithmetic Expressions

Arithmetic Data Transform objects can be created and used in documents.

Arithmetic expressions are set up and applied in the Data Transform panel. A Data Transform can consist of a single expression or a compound expression. A compound expression can be created by adding multiple arithmetic expressions to a single data transform. This includes the Numeric Format expression that can be used to format the resulting numeric value, for example, adding a currency sign to the string.



Note: The presentation of the arithmetic expression result can differ between the InDesign display and the printer rendering. For example, an expression that takes 999 from 1,000 can result in a display of 1 in InDesign, but can appear as 0001 when the application is printed. To avoid the leading zeros, use the **Format** option to apply a data transform. This action controls the display or suppression of leading zeros as the last data transform in a compound data transform.

In a compound data transform, the resulting value of the first expression is fed into the second expression automatically. The results of the second expression are fed into the third, and so on. The following is an example of the operations in a compound expression that first adds two numbers, then multiplies the sum by a fixed amount:

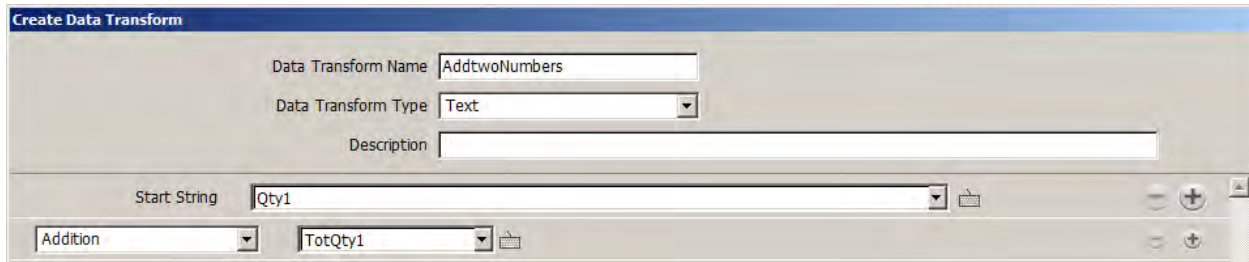
expression1: sum of two numbers ( $2+3=5$ )

expression2: result of expression1 multiplied by 5 ( $5 \times 5=25$ )

## Creating an Arithmetic Expression Data Transform

Creating an arithmetic expression data transform, works in the same way as other data transforms work.

The following list provides the steps to create a data transform that adds the field Qty1, which is a value of 23, to TotQty1, a value of 100. When the data transform is created, select it to use the resulting value in the document.

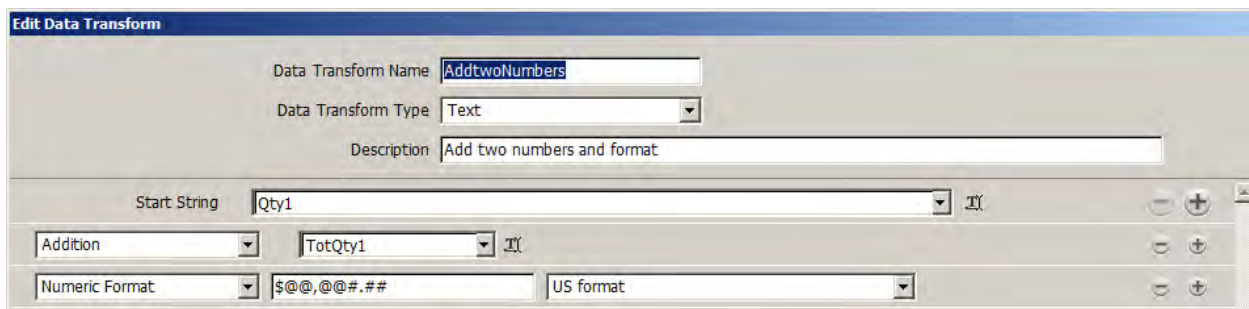


### CREATING A DATA TRANSFORM NAMED ADD TWO NUMBERS

To create a Data Transform named AddtwoNumbers:

1. In the Data Transform Name field, enter `AddTwoNumbers` to assign that name to the data transform.
2. For arithmetic expressions, set the Data Transform Type to **Text**.
3. Set the Start String, which is the starting value. In this example, the start string is `Qty1`. The start string can be a field that contains numeric data, or a manually entered value. When you use a field name, ensure that all records in the database file have a numeric value in that field name. If any records do not contain a numeric value, unpredictable results can occur.
4. Select an action to apply. For this example, select **Addition**.
5. Select a numeric value to add. This example uses the field `TotQty1`. The added numeric value can be a field that contains numeric data, or a manually entered value. When using a field name, ensure that all records in the data base file have a numeric value in that field name. If any records do not contain a numeric value, unpredictable results can occur.
6. To complete the data transform, select **OK**. In this example, the field *AddtwoNumbers* appears on the Data Object list. To use this data transform, create a text frame in the document, then insert the data transform *AddtwoNumbers*. This places the current value in the data object into the text frame on the document.

To refine the data transform further, add a **Numeric Format** option. This option can be used to control the format of the resulting number, for example, by adding a currency symbol and two decimal places. To add additional expressions, click the small plus + button.



To create complex expressions, click the small plus + button to add expressions to the data transform. The

expressions are executed from top to bottom. The following is a screen is an example of a complex expression:

The screenshot shows the 'Create Data Transform' window. At the top, the 'Data Transform Name' is 'ComplexExpression', 'Data Transform Type' is 'Text', and 'Description' is 'Example of complex transform'. Below this, the 'Start String' is '2009'. There are five rows of arithmetic operations, each with a dropdown menu, a text input field, and a minus (-) and plus (+) button on the right. The operations are: Addition (1000), Subtraction (Qty1), Multiplication (3), Division (2), and Remainder (103).

The data transform called *ComplexExpression* takes as its first input the user-defined value 2009, then adds the value 1000. This action results in a new value of 3009.

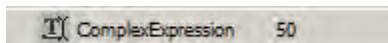
The resulting value is used as the input to the next expression. Therefore, the next expression begins with the value 3009, then subtracts the value in the field *Qty1*. The field *Qty1* for record one has a value of 23. So, 3009 minus 23 equals 2986.

The resulting value of 2986 is the input into the next expression. The next expression multiplies the input value 2986 by 3. The result is 8958.

The resulting value of 8958 is the input into the next expression, which divides the resulting value by 2. The result is 4479.

The resulting value of 4479 is the input into the next expression. The next expression provides a remainder value when 4479 is divided by 103. The remainder is the portion of the dividend (4479) that is not evenly divisible by the divisor (103), it is the integer left over. In this example, the remainder is 50.

The result of the compound expression is 50, which is shown in the field list for the data transform called *ComplexExpression*.



Using the plus + button with data transforms and arithmetic expressions

Do not use the large plus + button in the data transform entries when using arithmetic expressions. If you use the large plus + button, an additional string is generated, and the two strings are concatenated as follows:



The screenshot shows the 'Create Data Transform' dialog box. At the top, the 'Data Transform Name' is 'BigPlus', the 'Data Transform Type' is 'Text', and the 'Description' is 'Example using Multiple Entries'. Below these are two rows of configuration. The first row has 'Start String' set to '2' and an 'Addition' dropdown set to '2'. The second row has 'Start String' set to '10' and an 'Addition' dropdown set to '10'. Each row has a minus button and a plus button to its right.

The first entry adds 2 and 2, which results in a value of 4. The next entry is new because the large plus + button was used. The result of this entry 10 + 10 is 20. The results of the two entries are concatenated to create a new string, 420, as follows. Entries can be useful to make each value independent of each other, otherwise the use of entries is not recommended.





# Export and Printing

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The Export function is used by VDE to create a file for printing. VDE can export the job as a VI Design Express PDF file or can export to a VI Project Container (.vpc) or VIPP® Print Package (.vpp) format. The .vpc and .vpp formats take advantage of the efficiencies of *Dynamic Document Construction (DDC)* and are the recommended output formats for production printing, using the powerful VI Compose software at the print device to RIP the document.



Note: When exporting to the .vpc or .vpp output formats, it is a requirement that you are running VI Compose on the target Xerox print device. These formats will not print if VI Compose is not present and licensed. When unlicensed, VI Compose will print jobs in demo mode (57 Pages for EFI and 200 Pages for FFPS, 10 Pages for anything else). When the VDE export option is selected no finishing or feeding options are passed to the PDF; the feeding and finishing options are disabled in the export dialog. If these options are required, you must select either the **VI Project Container (.vpc)** or the **VI Print Package (.vpp)** menu option.

The advantages the DDC model brings to production printing are listed here. VI Compose software needs to be installed on the target print device.

- No data chunking (unless your print device cannot support large files)
- No waiting for documents to pre-compose on the work station (for production runs can take hours)
- Changes can be made up to the last minute (including the destination printer)

The advantages of the Export to VI Design Express PDF option are listed here. (VI Compose does not need to be installed at the target print device.)

- Flexibility (Print to any printer)
- PDF Proofing and Adobe Job Option capabilities

The Export function is used to collect the information necessary to print the application and package it in such a way that it can easily be sent to the printer. To support both production print devices and office printers, VDE provides three package mechanisms:

## VI Project Container (.vpc)

This is designed to support production printers. A VI Project Container is a compressed container file that contains the resources and data required to print the application. Supported VI production printers have a built-in mechanism to extract the resources and data contained in the VI Project Container file and print the application. A .vpc file can also be used to print to VIPP®-enabled office printers, but must use the VIPP® Manage utility to send

the .vpc file to the target printer.

### **VI Print Package (.vpp)**

This is designed to support office printers. A VI Print Package is a print file designed to be submitted directly to a VIPP®-enabled office printer. During the Export operation a target printer can be selected and the .vpp file is automatically submitted to the printer. The print file contains all the resources and data needed to print the application. A VI Print Package can also be submitted to a VIPP®-enabled production printer; however, for production devices, the VI Project Container would be the preferred export option. When the VI Print Package is intended for use on a production printer, be sure that the "Save assets on printer" option is NOT checked.

### **VI Design Express PDF (.pdf)**

This is designed to support printers not running VI Compose, or to print or proof smaller jobs. The PDF file is generated at the workstation. The workstation should not be used for other purposes while the PDF file is being rendered. When ready, it can be printed to any printer that supports PDF printing. PDF generation consumes more time than VPC file generation because the document is rendered page by page. By generating a PDF file you have more flexibility to print to devices that do not run VI Compose, or to use the PDF for other, non-printing, purposes. During the export process you can change the Adobe Job Options file used to set the PDF file generation options. (Refer to [Create VI Design Express PDF: PDF Settings](#).)

Once a package method is selected, a dialog for that package method will be displayed. The dialog will display a collection of panels. As you select each panel, you will enter information about the job properties. Once the information has been entered, click the **OK** button to start the VDE Export operation. Depending on the complexity of the application, this step takes anywhere from one to fifteen minutes to generate the .vpc or .vpp packages that are then sent to the printer for immediate printing, or one minute to several hours to generate the PDF file if using that option, depending on the complexity of the document and the number of records to compose.


During this process VDE collects all the job information, required resources, data file, etc., and creates either a VI Project Container (.vpc) or a VI Print Package (.vpp) file or will start to compose the PDF file, depending on the Export selection you made. When you select the VI Project Container option, you must submit the .vpc file to the target print device, using lpr, hot folders, or other print methods. When you select the VI Print Package, the .vpp file is automatically submitted to the target print device (when selected), or manually submitted to the printer. If you chose to create the PDF file, use any standard method to print the PDF to your target device.

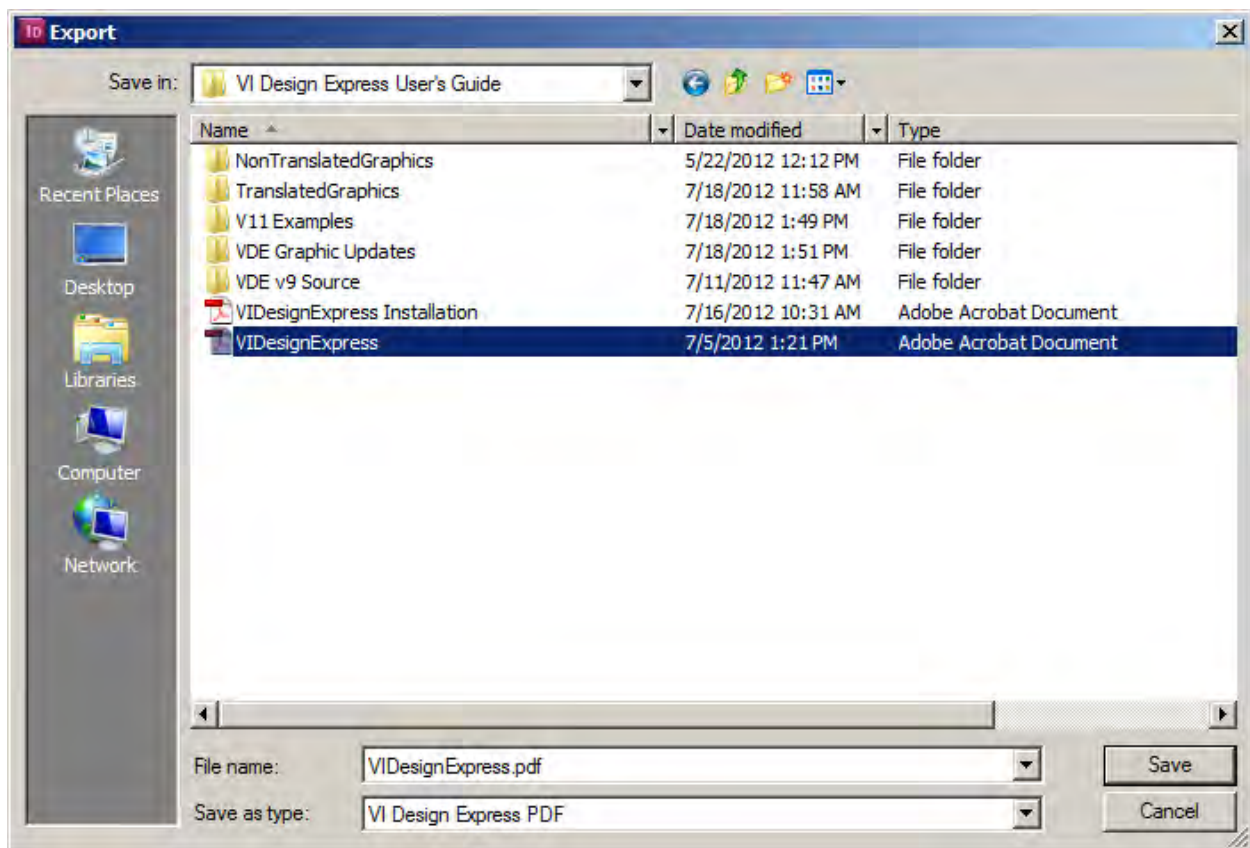
## Export Options

Exporting the VDE application requires the user to set applicable options that will be used to create the final output. The process for all three output formats is similar. Any differences will be noted.

Use the **InDesign File > Export** option to select one of three Save as types:

- Selecting the VI Project Container option results in a .vpc file being generated.
- Selecting the VI Print Package results in a .vpp file being generated.
- Selecting the VI Design Express PDF option results in a .pdf file being generated.

 Note: Do not select the InDesign Export to PDF option, this will not process VDE rules or data transforms and will not generate the correct PDF output. Always select Export, then select the VDE PDF option for correct PDF output.



Enter the file name usually the same as the InDesign project document name and press **Save**. Select either the VI Project Container (VPC), VI Print Package (VPP) or VI Design Express PDF (PDF) as the Save as Type option.

The majority of the user input for the Create VI Project Container, Create VI Print Package, and Create VI Design Express PDF panels will be the same. Input differences vary only on the Project Settings, Print Package and VI Design Express PDF Settings screens described below. Those differences are found on the first panel displayed, and are specific to the Save as type option selected (VI Project Container, VI Print Package or VI Design Express PDF). Review the appropriate section:

- [Create VI Project Container: Project Settings](#)
- [Create VI Print Package: Print Package Settings](#)
- [Create VI Design Express PDF: PDF Settings](#)

The other tab panels are common to all save formats. The information in the panels can be entered in any order, although it is suggested that you go through them in the order they are presented. Once information has been entered in a panel, it is persistent unless changed by the user. The Presets option is a short cut that, when selected and applied, will populate the tabs with pre-set values. Currently this is limited to booklet and calendar imposition settings. More pre-set options will be added in future releases.

All of the Save as types provide access to these options:

- [Create VI Project Container: Project Settings](#)
- [Create VI Print Package: Print Package Settings](#)
- [Print settings](#)
- [Multi-Up](#)
- [Flattening](#)
- [Media and Finishing](#)
- [Export Presets](#)



Note: While you can edit a .vpc file using tools such as VI Design Pro, it is recommended that you do not attempt to edit a .vpp file. This is a special format and any changes made in error can create unpredictable results up to the job failing to print.

## Create VI Project Container: Project Settings

The Create VI Project Container panel is shown when the VI Project Container (VPC) Save as Type is selected.

The screenshot shows the 'Create VI Project Container' dialog box. The 'Project Settings' tab is active in the sidebar. The main area contains the following fields and options:

- Project Folder:** VIDesignExpress
- Project Name:** VDEExample
- Production Data File:** (empty field with 'Clear' and 'Browse...' buttons)
- Record Buffer Size:** 8192
- ☐ Ignore Missing Resources
- ☐ Include assets in project
- Asset Folder:** (empty field with 'Browse...' button)
- ☐ Include job ticket
- ☐ Include CIP3/4 file
- ☐ Proof VI Project Container after Export
- ☐ Include SI screen fonts in VPC
- ☐ Modify PDFs in Asset Folder with Embedded EPS

At the bottom left are '+', '-', and 'Apply Settings' buttons. At the bottom right are 'OK' and 'Cancel' buttons.

The following user input is required:

### Project Folder and Project Name

These are user definable fields. The default project folder is VIDesignExpress, the name of which may be changed as required. Folder and project names can only consist of dash, underscore, period, and alphanumeric characters, and cannot exceed 32 characters in length.

The Project Folder name is important as it defines or creates if not already there a folder on the FFPS or other target print device under the xgfc folder. The Project Name creates a folder inside the Project Folder. This is where all the resources from the asset folder are stored. The FFPS only stores files when the FFPS filter (VPCF) option is set to Deploy and Print, or to Deploy Only. When Print and Forget is selected as the filter option, no resources are stored on the printer. For more information about configuring the VPCF filter option on the FFPS, consult the printer documentation or ask a Xerox representative.

### Production Data File

Use ONLY when the data file for the production job is different from the data file used in the design process. The record layout, and case sensitive field names in the new data file, MUST be identical to the original data

file's record layout and case sensitive field names. Clicking the **Clear** option removes the currently assigned data file. This may affect rules and data transforms that may need to be reset with a new data file.

### Record Buffer Size

The Record Buffer Size option is used to set the VIPP® Pro command SETBUFSIZE parameter in the exported VI Container file. This sets the line buffer setting in VI Compose. For more information review the SETBUFSIZE command in the *VIPP® Language Reference Manual*.

The default value is 32767. The allowable range is 255 - 65534.

Xerox recommends use of the default value. Only increase this value if you get the VI Compose error rangecheck error on readline.

### Ignore Missing Resources

When this option is selected, VDE inserts VIPP® code that allows the application to ignore missing resources.

This means that when a resource is called, but is not present, no action is taken to find the missing resource, the job will continue to print, but that resource will not be used in the document. Care should be taken when selecting this option. This option is unchecked by default so that the job will abort when a resource is not found.

### Include assets in project

Use the check box to select the assets in the project. Always check this box the first time the job is run. With the box checked, VDE will add all the resources in the asset folder to the .vpc file it builds for printing. The only reason to uncheck this box is when the job is rerun and all the resources are already installed on the printer. In this case unchecking the box results in copying only the data file to the .vpc file without all of the variable images, text files, etc. This results in a much smaller .vpc file.

### Asset Folder

Is defaulted to the asset folder selected when starting the design phase. However, it is possible to use a new production asset folder in a different location. All the assets images, text files and so on used in the job must be in the asset folder entered here.

### Include job ticket

Enable this checkbox to include a job ticket in the project. Typically, this option is left unchecked.

### Include CIP3/4 file

Enable this checkbox to include a CIP3/4 file in the project. Typically, this option is left unchecked.

### Proof VI Project Container after Export

When this option is checked, VDE will render a PDF for proofing purposes. Limited to the first 150 pages of the application. The PDF will open in your default PDF viewing application.

### Include SI screen fonts in VPC

Enable this checkbox to include the Specialty Imaging screen fonts in the .vpc. This is only needed when the .vpc file will be edited by non-Xerox VI tools. Because all VI Tools have the SI fonts already installed, this option is typically left un-checked.

### Modify PDFs files in Asset Folder with Embedded EPS

Enable this option to use PDF files as variable VIPP® resources on non-Adobe PDF Print Engines (APPE). This option is not necessary when printing to an APPE supported engine or to a VI eCompose server.

It is not possible to send PDF files directly to a non-Adobe PDF Print Engine. In order to print those files to a

PostScript engine they must contain EPS information, which consists of the EPS equivalents of each page and other information. The information is embedded in the actual PDF file, either during export, or during batch processing.

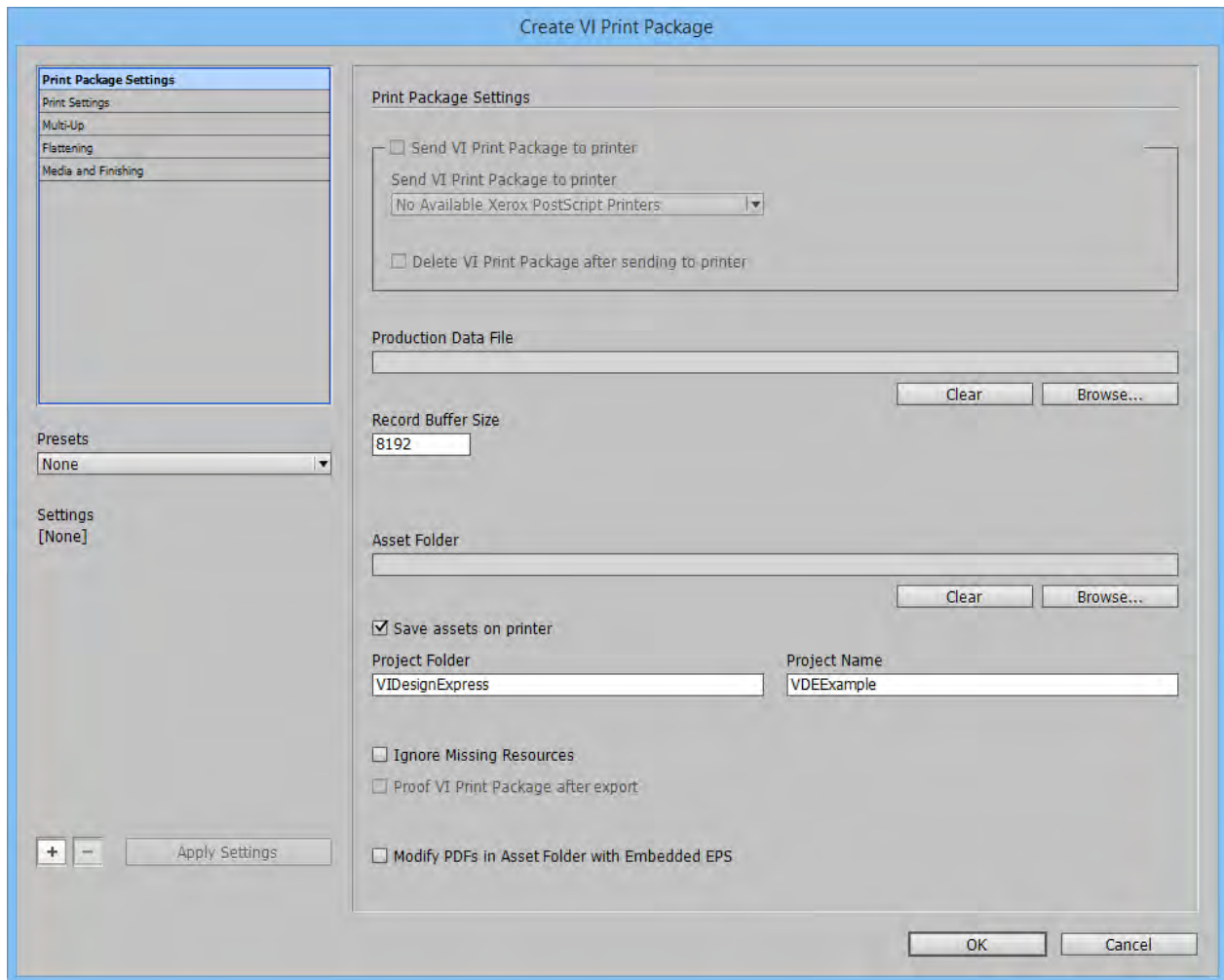
Selecting this option begins the process to add EPS information to each PDF resource during the export process. Therefore, using this option takes time. To avoid the additional time, batch process the PDF files prior to export.

Refer to [Batch Process PDF files as resources](#) for more information.

Because this process will modify the original PDF file it is important to make backup copies of the original files.

## Create VI Print Package: Print Package Settings

The Create VI Print Package panel is displayed when you choose to export to a VI Print Package (VPP) file.



The following user input is required:

### Send VI Print Package to printer

Check this box when you want to automatically send the .vpp file to a printer. The drop-down will list all of the Xerox PostScript printers that can be used from your computer.

### Delete VI Print Package after sending to printer

Check this box when you want to delete the .vpp file after it has been sent to the printer. When not checked, the .vpp file will remain in the folder you saved it to. It is recommended that you delete .vpp files after printing to avoid saving large files to your file system.



Note: This option is ignored if you select the Proof VI Print Package after export option. The file is saved to the save location should you want to manually submit the file for printing after proofing.

### Production Data File

Use ONLY when the data file for the production job is different from the data file used in the design process.



The record layout and case sensitive field names in the new data file **MUST** be identical to the original data file's record layout and case sensitive field names. Clicking the **Clear** option will remove the currently assigned data file, this may affect rules and transforms that may need to be reset with a new data file.

### Record Buffer Size

Use to set the VIPP® Pro command SETBUFSIZE parameter in the exported VI Print Package file. This sets the line buffer setting in VI Compose. For more information review the SETBUFSIZE command in the *VIPP® Language Reference Manual*.

The default value is 32767. The allowable range is 255 - 65534.

Xerox recommends use of the default value. Only increase this value if you get the VI Compose error rangecheck error on readline.

### Include assets in VI Print Package

Use the check box to include the job assets in the Print Package. Always check this box the first time the job is run. With the box checked, VDE will add all the resources in the asset folder to the .vpp file it builds for printing. When you save the resources on the printer (see Save assets on printer) you may un-check this option next time you run the job. By un-checking this option, only the data file will be included in the .vpp file, making it much smaller. However, this does require all needed resources already be available on the printer.



Note: When you plan to proof the .vpp file, you must check the Include assets in VI Package check box.

### Asset Folder

The folder that appears as the default is the asset folder selected when starting the design phase. However, it is possible to use a new "production" asset folder in a different location. All the assets (images, text files, etc.) used in the job must be in the asset folder entered here.

### Save assets on printer

Check this box to save assets to the printer's hard drive. To use this option, your printer must have a hard drive installed. Assets will be stored to the printer's hard drive using the Project Folder details supplied below.

### Project Folder and Project Name

These are user definable fields. The default project folder is VIDesignExpress, the name of which may be changed as required. Folder and project names can only consist of dash, underscore, period, and alphanumeric characters, and cannot exceed 32 characters in length.

The Project Folder name is important as it defines or creates, if it is not already there a folder on the target print under the xgfc folder. The Project Name creates a folder inside the Project Folder. This is where all the resources from the asset folder will be stored.

### Ignore Missing Resources

When this option is selected, VDE inserts VIPP® code that allows the application to ignore missing resources. This means when a resource is called, but is not present, and no action is taken to find the missing resource, the job will continue to print. However, that resource will not be used in the document. Care should be taken when selecting this option. Because this option is unchecked by default, the job will abort when a resource is not found.

### Proof VI Print Package after export

When this option is checked, VDE will render a PDF for proofing purposes limited to the first 150 pages of the application. The PDF will open in your default PDF viewing application. This option is not available when the PDF emitter option is selected.

### Modify PDFs files in Asset Folder with Embedded EPS

Enable this option to use PDF files as variable VIPP® resources on non-Adobe PDF Print Engines (APPE). This option is not necessary when printing to an APPE supported engine or to a VI eCompose server.

It is not possible to send PDF files directly to a non-Adobe PDF Print Engine. In order to print those files to a PostScript engine they must contain EPS information, which consists of the EPS equivalents of each page and other information. The information is embedded in the actual PDF file, either during export, or during batch processing.

Selecting this option begins the process to add EPS information to each PDF resource during the export process. Therefore, using this option takes time. To avoid the additional time, batch process the PDF files prior to export. Refer to [Batch Process PDF files as resources](#) for more information.

Because this process will modify the original PDF file it is important to make backup copies of the original files.

### EPS and password protected PDF files

Conversion to EPS, or embedding with EPS is not supported for PDF files protected by password or other security measures. Attempts to do so will fail, and is the expected behavior. How the failure is presented to the user varies according to the operating system and the service pack level of that operating system.

### EPS and file size

Embedding EPS into the PDF files will increase the original file size. Ensure that you have enough storage space on your file system.

### Transparency limitations

When printing to a PostScript engine you need to be aware of transparency limitations. For example, a variable image with transparency laid over a background will knock out what is below the image.

### Advanced PDF options

Advanced PDF options such as transparency, are lost when generating the EPS image file, but are still retained in the PDF file. When printing the PDF to the PS interpreter, VIPP® will use the embedded EPS language.

Do not use this option with the FFPS Adobe Print Engine (APPE)

When you design applications targeting the FFPS APPE that use PDF resources, it is not necessary to use this option. APPE can directly ingest the PDF resources in a VIPP® application.

## Create VI Design Express PDF: PDF Settings

The Create VI Design Express panel is displayed when you choose to export to a VDE PDF file.



Note: Caveats when exporting to a PDF output file:

- Unpredictable results will occur if using Xerox Specialty Imaging and exporting to PDF. Xerox Special Imaging effects are unsupported when using PDF.
- Plex changes within a job are not supported, unless printing to an FFPS APPE engine supporting PDF/VT.
- Feeding and Finishing options selected within a job may not be supported, unless printing to an FFPS APPE engine supporting PDF/VT.

The following user input is required:

### Project Folder and Project Name

These are user definable fields. The default project folder is VIDesignExpress, the name of which may be changed as required. Folder and project names can only consist of dash, underscore, period, and alphanumeric characters, and cannot exceed 32 characters in length.

The Project Folder name is important as it defines or creates, if not already there a folder on the FFPS or other target print device under the xgfc folder. The Project Name creates a folder inside the Project Folder. This is

where all the resources from the asset folder are stored. The FFPS only stores files when the FFPS filter (VPCF) option is set to Deploy and Print, or to Deploy Only. When Print and Forget is selected as the filter option, no resources are stored on the printer. For more information about configuring the VPCF filter option on the FFPS, consult the printer documentation or ask a Xerox representative.

### Production Data File

Use **ONLY** when the data file for the production job is different from the data file used in the design process. The record layout and case sensitive field names in the new data file **MUST** be identical to the original data file's record layout and case sensitive field names. Clicking the **Clear** option removes the currently assigned data file. This may affect rules and data transforms that may need to be reset with a new data file.

### Use Production Data file for submission

Click this box to use the production data file to create the PDF.

### PDF Quality

PDF Quality settings are used to specify an Adobe Job Options file that defines the options used when generating the PDF file. Adobe job options include settings for images, colors and fonts, as well as resolution and compatibility.

Select one of the PDF Quality settings from the drop-down list, or select the Custom option to browse to other available Adobe Job Options, including Adobe Job Options files you create using Adobe Acrobat. Options include:

High	Uses High_Quality_USletter.joboptions
Medium	Uses Medium_Quality_USletter.joboptions
Low	Uses Low_Quality_USletter.joboptions
Custom	Allows user-selection.

### Custom job options file

This option is available when you select Custom as the PDF Quality. When you have created your own joboptions file, browse for and select that file.

### Record Buffer Size

The Record Buffer Size option is used to set the VIPP® Pro command SETBUFSIZE parameter in the exported VI Container file. This option sets the line buffer size in VI Compose. For more information review the SETBUFSIZE command in the *VIPP® Language Reference Manual*.

The default value is 32767. The allowable range is 255 - 65534.

Xerox recommends use of the default value. Only increase this value if you get the VI Compose error rangecheck error on readline.

### Ignore Missing Resources

When this option is selected, VDE inserts VIPP® code that allows the application to ignore missing resources. This means that when a resource is called, but is not present, no action is taken to find the missing resource, the job will continue to print, but that resource will not be used in the document. Care should be taken when selecting this option. Because this option is unchecked by default, the job will abort when a resource is not found.

### Include assets in project

Use the check box to select the assets in the project. Always check this box the first time the job is run. With the box checked, VDE will add all the resources in the asset folder to the .vpc file it builds for printing. The only reason to uncheck this box is when the job is rerun and all the resources are already installed on the printer. In this case unchecking the box results in copying only the data file to the .vpc file without all of the variable images, text files, etc. This results in a much smaller .vpc file.

### Asset Folder

Is defaulted to the asset folder selected when starting the design phase. However, it is possible to use a new production asset folder in a different location. All the assets such as images, text files, and so on used in the job must be in the asset folder entered here.

### Include SI screen fonts in VPC

Enable this checkbox to include the Specialty Imaging screen fonts in the .vpc. This is only needed when the .vpc file will be edited by non-Xerox VI tools. Because all VI Tools have the SI fonts already installed, this option is typically left un-checked.

### Do not use Font Export Options

Refer to [Export using the font substitution table](#) for font export information.

### Modify PDFs in Asset Folder with Embedded EPS

Enable this option to use PDF files as variable VIPP® resources on non-Adobe PDF Print Engines (APPE). This option is not necessary when printing to an APPE supported engine or to a VI eCompose server.

It is not possible to send PDF files directly to a non-Adobe PDF Print Engine. In order to print those files to a PostScript engine they must contain EPS information, which consists of the EPS equivalents of each page and other information. The information is embedded in the actual PDF file, either during export, or during batch processing.

Selecting this option begins the process to add EPS information to each PDF resource during the export process. Therefore, using this option takes time. To avoid the additional time, batch process the PDF files prior to export. Refer to [Batch Process PDF files as resources](#) for more information.

Because this process will modify the original PDF file it is important to make backup copies of the original files.

### EPS and password protected PDF files

Conversion to EPS, or embedding with EPS is not supported for PDF files protected by password or other security measures. Attempts to do so will fail, and is the expected behavior. How the failure is presented to the user varies according to the operating system and the service pack level of that operating system.

### EPS and file size

Embedding EPS into the PDF files will increase the original file size. Ensure that you have enough storage space on your file system.

### Transparency limitations

When printing to a PostScript engine you need to be aware of transparency limitations. For example, a variable image with transparency laid over a background will knock out what is below the image.

### Advanced PDF options

Advanced PDF options such as transparency, are lost when generating the EPS image file, but are still retained in the PDF file. When printing the PDF to the PS interpreter, VIPP® will use the embedded EPS language.

### **Do not use this option with the FFPS Adobe Print Engine (APPE)**

When you design applications targeting the FFPS APPE that use PDF resources, it is not necessary to use this option. APPE can directly ingest the PDF resources in a VIPP® application.

### **Generate PDF log file**

Use this option when you want a record of the PDF creation process.

### **Open PDF after completion**

Enable this option when you want to open the PDF automatically.

### **Include media and finishing options**

For use only with supported versions of FreeFlow Print Server devices using Adobe PDF Print Engine (FFPS APPE / PDF/VT devices). Enable this option when you want to include media and finishing options in the PDF. Selecting this option will increase the size of the resulting PDF. The size increase can be significant and depends on several factors, such as the number of media changes, the number of options defined for the job, and the total number of pages.

### **Create a PDF/VT\_1 Compliant PDF**

Select this option for PDF/VT\_1 compliant PDF creation. There are two Job options available to select (PDFX3 2003 Joboptions and PDFX3 2003 JPN Joboptions). The Additional Profile Options are available when you select Include media and finishing options and Create PDF/VT\_1 compliant PDF to create PDF/VT\_1 compliant PDF files to include Media and Finishing options.



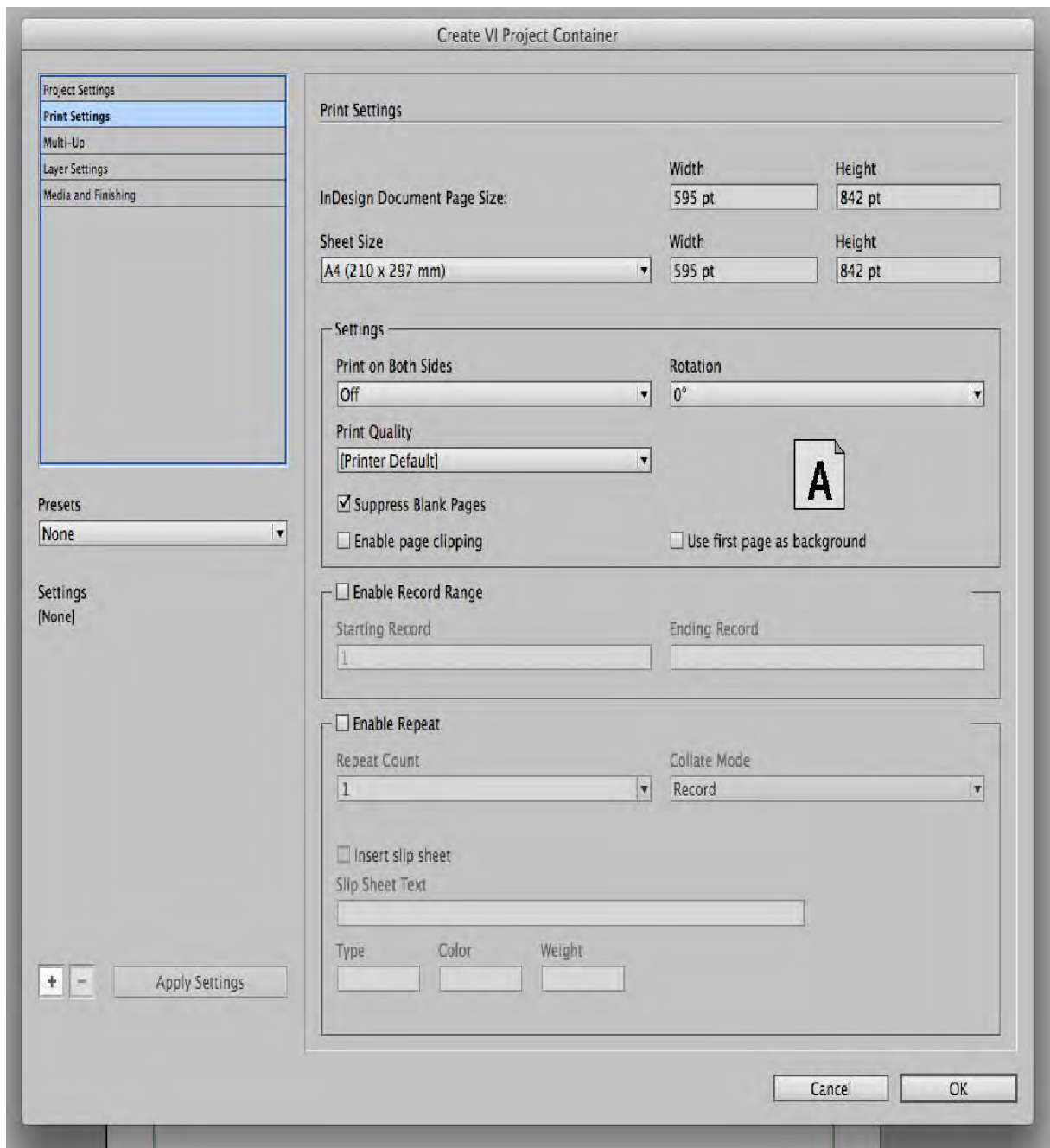
Note: Not all printer devices honor PDF files that contain Media and Finishing requests or that are compliant with the PDF/VT-1 standard. Only the digital front end (DFE) systems that are supported honor the feeding and finishing requests.

## Export and Print Panels

The Export and Print panels shown in this section are can be found on the panel for each print package options such as PDF, VPC, and VPP.

### PRINT SETTINGS

The Print Settings panel consists of these options:



## InDesign Document Page Size

This is the document size defined at the start of the design. This is typically the size of the finished piece after printing and finishing. For example, a postcard might have a document size of width 432 mm (6 in.) and a height of 288 mm (4 in.). VDE handles page sizes up to the largest Adobe InDesign page size 200 inches by 200 inches.

## Sheet Size

Describes the sheet of paper that is used on the printer. Select the printer sheet size by selecting one of the pre-loaded paper sizes from the Printer Paper Size drop-down to automatically populate the Width and Height settings. When Custom is selected from the drop-down list, the Width and Height boxes to the right of the Sheet Size box need to be filled in using the currently used units. The minimum specified sheet size is 36 points by 36 points. This sheet size is too small to print on a printer unless the printer imposition option is used. Production printers may not support a sheet size less than 504 points (7 inches), unless the sheet setting is overridden to an acceptable sheet size for printer imposition.

Variable data documents can use a range of different paper sizes within the same job. To do so, select the **[Use InDesign Document Page Sizes]** option from the Sheet Size drop-down list in the Print Setting tab.

Options such as Duplex, Simplex, SlipSheet, and Media type selections will affect how VDE will display the layout. Common sense needs to be applied in the design of a document. For example, you cannot change a page size between pages one and two, when printing duplex. If this situation occurs, the printer will insert a blank page on the back side of page 1 and force the page size change to the new front of the next sheet.

## Print Quality

Print Quality is used to place the printer into a particular print mode. Support for Print Quality is more often found on office devices than on production devices. When a device does not support Print Quality, any setting other than Printer Default will be ignored.

Select one of these five options from the drop-down list.

### Printer Default

This is the default setting. When you select this setting, no attempt to change any Print Quality settings will be made and the printer default will be used. (Recommended.)

### High-Resolution / Photo

High-quality mode for fine lines and detail. Recommended for vibrant, saturated color prints, and for photos.

### Enhanced

General purpose mode for crisp, bright color prints.

### Standard

Ideal for black text and for high-speed color prints.

### Fast Color

Fastest full-color mode. Useful for previewing work.



Note: Most production printers will ignore any setting made through this menu selection. Print and Image quality on production devices are controlled through the DFE supplied with the printer. Office devices may support Print Quality settings. Check your printer specifications and driver settings for more details.



**Print on Both Sides**

Controls plex. For more information refer to [Duplex Options](#).

**Rotation**

Used to rotate the InDesign image 0, 90, 180 or 270 degrees counter clock-wise, on the final printed sheet.

**Suppress Blank Pages**

Enable this option to suppress pages that are completely empty i.e. no printable objects or markings on the page.

**Use first page as Background**

Enable this option to set the first page as background for all other pages like sheet masters.

**Enable page clipping**

This option should be left blank by default as this is the setting that most applications would use. For applications where items may extend over page boundaries and strange effects are seen, you may want to check page clipping to resolve this issue. However, this will disable bleed values outside a page area.

**Duplex Options**

The settings specified here are used to set the duplex option used in the application.

All options found in the Print on Both Sides drop-down list are described below. The duplex printing options automatically compensate for an odd number of pages, forcing a new document set to print as described here.

**Off**

No Duplex option will be applied to the job.

**Duplex**

Normal Duplex options will be applied to the job. When the document has an odd number of pages the back of the last page is left blank. The next record will print on a new front side.

**Tumble Duplex**

Head to Toe Duplex options will be applied. When the document has an odd number of pages the back of the last page is left blank. The next record will print on a new front side.

**Duplex (Continuous)**

Duplex options will be applied to the job. When the document has an odd number of pages and the last page falls on a front side, the first page of the next record will print on the backside of the sheet. No new front side is forced.

**Tumble Duplex (Continuous)**

Head to Toe Duplex options will be applied to the job. When the document has an odd number of pages and the last page falls on a front side, the first page of the next record will print on the backside of the sheet. No new front side is forced.



Note: Jobs will print using the printer default location. When printing a duplex one-up job use the Multi-up tab and set the Across and Down options to 1. This will center the page to the middle of the selected sheet size, and will provide better registration front and back. When printing variable data from the same record on the front and back of the job, also select the ZSORT option found on the Multi-up tab.

### Enable Record Range

Record Range is used to specify a record range or subset of a larger data file for printing. VDE will use the data file targeted for printing as the target data file to extract the subset for printing.



Note: If using the VDE PDF option, use Record Range to limit the records processed for proofing purposes. By setting the range you will reduce the time you have to wait for the PDF file to be created.

A copy of the selected file is made by VDE, then the subset based on the values entered is extracted and passed to the .vpc or .vpp file for printing. The original data file is not changed.

Record Range allows specification of a starting Record number and an Ending Record number. All records within that range are selected for printing. No records outside of that range are selected for printing.

A typical use of Record Range is to reprint a range of records from a larger data file. Also use it to split a large data file into several smaller sections for printing on multiple printers.

When enabling the Record Range:

- Starting Record is the first record to print. The default value is 1. Any number greater than zero is valid. However, when the number is greater than the total number of records in the data file, no records are selected.
- Ending Record can be left blank. When blank, all records to the end of the file will be selected. When a value is entered it must be greater than or equal to the starting record value.

For example, using a data file consisting of ten records with the Starting Record value of 1 and an Ending Record value of 1 specified, the resulting file prints the first record only. When the ending value is 10, then records 1 through 10 will be printed. To print a range of records from record 5 to the end of the file, select 5 as the Starting Record and leave the Ending Record option empty.



Note: Do not use the Export function Record Range to reprint a subset of a data file where a record counter is used. Unpredictable results may occur unless the job is edited and the Record Counter base setting is reset to reflect an accurate value for the starting record used in the Record Range Export option. For example, in a ten record job with a base value of 1 and using the Record Range to reprint records 5 through 10, unless the job is edited and the Starting Record value is reset to 5, the record counter is incorrect for the records reprinted.

### Enable Repeat

Use the Enable Repeat option to specify the number of times to repeat each record, before moving to the next record. This can enable applications such as Business Cards where you may want to repeat the data Name, address, and so on in a single record X number of times before moving to the next customer record. Other settings in Enable Repeat are Collate Mode, and Insert Slip Sheet.

### Repeat Count

The Repeat Count window allows entry of a numeric value between 1 and 9,999, which is applied to all records in the data file. Or, select a field name from the data file that is applied to that specific record. When a field is selected, every record in the data file must have a valid entry in this field. The field selected must contain a numeric value between 1 and 9,999.

Each record is processed the number of times specified in the Repeat Count box. This can be a fixed number entered by the user, or a data field, data transform or rule that contains, or is evaluated to, a valid numeric value.



Note: The data field, data transform or rule must contain or get evaluated to a valid numeric value from 1 to 64,000, any other value is unsupported and unpredictable results can occur.

Some limitations apply when using Repeat with other options available in the VDE plug-in, as listed below.

- Supported:
  - Repeat using a fixed numeric value
  - Repeat using a selected data field containing a valid numeric value
  - Repeat using a Data Transform that when evaluated will be a valid numeric value
  - Repeat using a Data Transform or Rule that references another Data Transform or Rule\*
  - Repeat using a fixed numeric value + Zsort
  - Repeat using a selected data field containing a valid numeric value + Zsort
- Un-Supported
  - Repeat using a Data Transform combined with the use of Zsort
  - Repeat using a Data Transform or Rule that references a Repeat Counter Data Transform
  - Repeat using a Data Transform or Rule that references another Data Transform or Rule that uses the Repeat Counter Data Transform

### Collate Mode

Use Collate Mode to choose between three collate options:

- **Record:** The default option (and the prior behavior in earlier versions of VDE). This option enables Repeat at the record level (the output of each record is repeated).
- **Page:** Each individual page is repeated. This option is not available in Multi-up mode or when a data field is selected as the "Repeat Count". This option is not available when Duplex is selected.
- **Job:** The entire job is repeated. (The output for all records.) This option is not available when a data field is selected as the "Repeat Count".

### Insert Slip Sheet

To generate an optional Slip Sheet between each customer record select the Slip Sheet option and set the appropriate slip sheet parameters. This will insert a Slip Sheet between each customer record, which allows individual customer records to be quickly identified.



Note: When using Repeat with Zsort, where the Repeat Count is a data field, data transform or rule, you may select the Slip Sheet option, but no media options such as Type, Color or Weight will be available. The Slip Sheet will use the currently selected media.

For example:

- In a Business Card application, to print 500 business cards for each client data record, enter a numeric value of 500. VDE will create a .vpp or .vpc file that, when printed on the printer, will repeat each record the specified number of times before forcing a new front sheet and moving to the next record. When the Slip Sheet option is selected, a slip sheet is inserted between each record set.
- In a Business Card application, to print different amounts of business cards per customer, select a field name from the pull-down list. Using this option, each record is processed the number of times specified in the field. Every record could have a different numeric value, producing a different number of business cards per customer record. As each record is processed VDE will ensure that the new record starts on a new front side sheet. When the Slip Sheet option is selected a slip sheet is inserted between each record set.

A short text string can be added to the slip sheet. This text string cannot contain any variable data or fields from the data file. Specifying the Type, Color, and Weight parameters for the Slip Sheet allows for the use of a different color stock to make the slip sheet more visible.



Note: The value entered into the Repeat Count field must be a valid numeric value from 1 - 64,000. If a data field is selected, that too must contain a valid numeric value. If a Data Transform or Rule is selected, that too must evaluate to a valid numeric value. If this is not the case, unpredictable results will occur. Your job may even abort with a PostScript error message such as PostScript RangeCheck in get or other message. The user must verify that the data, data transforms and rules they intend to use will result in a valid numeric value.

### MULTI-UP

The Multi-Up panel consists of these options:

**Multi-Up**

☐ **Enable Multi-Up**

Print crop marks  
None

Pages per Sheet

Across 1

Down 1

Auto

Gutters

Horizontal 0 in

Vertical 0 in

Filling Order  
Right-Down

☐ Apply booklet imposition

☐ Rotate Pages 180 degrees

☐ Enable Z-Sort

Sheets per Stack  
50

☐ Pad last stack

☐ Insert slip sheet

Slip Sheet Text

Type Color Weight

☐ Enable grouping  
N/A pages per group



Note: When using the Multi-up option and printing contents of the same record to a duplex sheet front and back, you will also need to apply a Z-sort option in order to keep the front side and back side printing order. Refer to [Z-sort Options](#) for details.

### Enable Multi-Up

When this check box is enabled, Multi-Up settings can be entered and used.

### Print crop marks

When selected, this will insert 1/4 inch crop marks. Adjustments to the default crop marks can be made through the VDE Preferences Menu.

### Pages per Sheet

Used to control Multi-Up on a page. The options allow specification of the number of iterations of the job that

are printed across and down the page.

### Auto

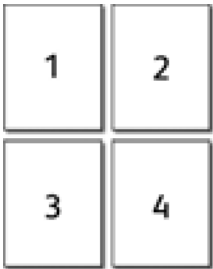
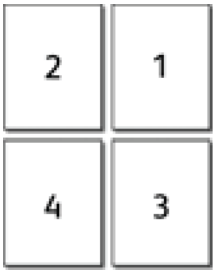
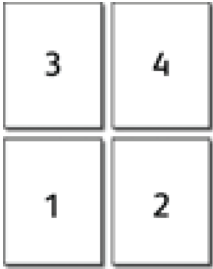
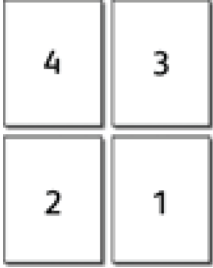
Use this option to automatically work out the best imposition options for the job based on sheet size, bleed, page rotation, and gutters.

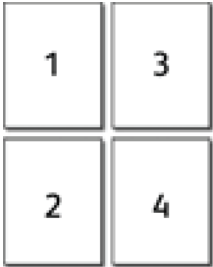
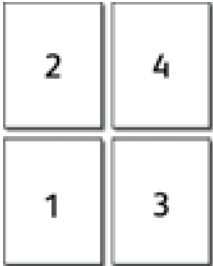
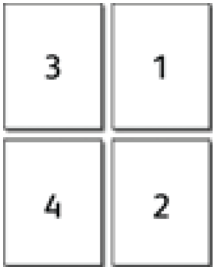
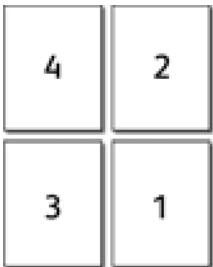
### Gutters

When used, this sets the horizontal and vertical gutters. The values for Gutters can be negative or positive, the acceptable range is -0.5 to 6 inches and -36 points to 432 points.

### Filling Order

used to designate the order in which InDesign pages are printed on printer sheets. The options and the resulting actions are:

This Option:	means first fill from:	then fill from:	
Right Down	left to right	top to bottom	
Left Down	right to left	top to bottom	
Right Up	left to right	bottom to top	
Left Up	right to left	bottom to top	

This Option:	means first fill from:	then fill from:	
Down Right	top to bottom	left to right	
Up Right	bottom to top	left to right	
Down Left	top to bottom	right to left	
Up Left	bottom to top	right to left	

### Apply booklet imposition

Check this box to automatically apply booklet imposition to the job.

### Rotate Pages 180 degrees

The Rotate Pages 180 degrees option allows you to select logical pages, the individual document to rotate on the physical sheet, the larger printed sheet. The logical pages selected will be rotated 180 degrees. In the example shown below, this option has been used to apply a head-to head imposition.

**Multi-Up**

☒ Enable Multi-Up

Print crop marks

Pages per Sheet

Across

Down

Gutters

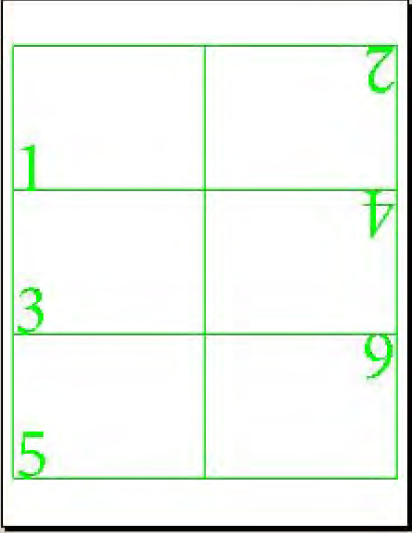
Horizontal

Vertical

Filling Order

☐ Apply booklet imposition

☒ Rotate Pages 180 degrees

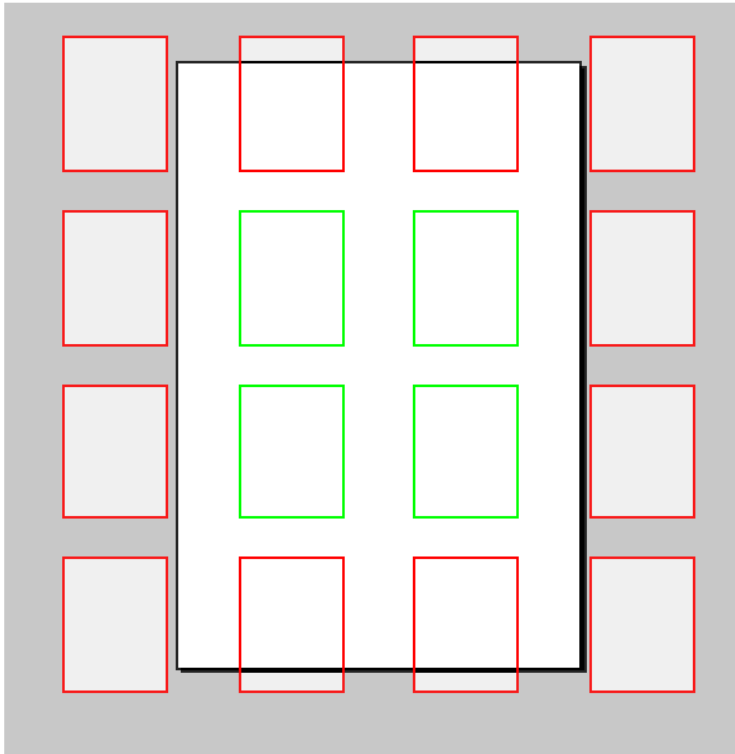


To rotate logical pages 180 degrees, check the Rotate Pages 180 degrees check-box, then enter the logical page numbers you want to rotate. A comma or space character must be used to separate the logical page numbers.

### Visual Imposition

A visual representation of the page imposition appears at the top right of the panel when Multi-Up is selected. When a green box appears over the page, the Multi-Up combination will fit on the printed sheet, when a red box appears the pages will not fit on the printed sheet. It is possible to have both indicators in the same window.





### Z-sort Options

The Z-sort option supports documents containing any number of pages. All documents in the print job must consist of the same number of pages.

Z-sort provides both the ability to define the filling order on a multi-up sheet, and the through the stack printing capability. The stack printing capability is often referred to as Y-sort.

#### Enable Z-Sort

Use this option for one side or two side Multi-Up printing, similar to postcards. ZSORT provides the ability to print simplex or duplex Multi-Up documents. ZSORT can maintain the front and back record alignment when variable data needs to be placed on both the front and back sides of a Multi-Up document. ZSORT also provides the capability to print these documents in a north/south imposition order or in stacks, which can be taken to a cutter and cut and stacked, maintaining record order through the stack. This is often used to maintain zip code or postal code order. In addition, a slipsheet can be created and inserted between the stacks of output to aid in identifying the stack boundaries. When printing multi-up with ZSORT through the stack, each document must contain the same number of pages.

#### Sheets per Stack

This is an optional setting and is used to set the stack size. Typically, you need to set this option if you are printing multi-up on a large sheet and you need data from a single record to be printed on the front and back of the same document; or, you need to maintain record order printing through the stack north-south imposition. If printing a document that requires data from the same record on the front and back of a document, setting the stack size to 1 will accomplish this. You may need to increase this value if your document set is more than 2 pages. If printing through the stack to maintain record order, often used when serialization or postal code order needs to be maintained, you should set your stack size to a number smaller than the maximum number of

sheets your offline cutter can cut in a single pass, this would typically be between 250 and 500 sheets. VDE would then print stacks based on the value you entered, maintaining record order through the stack. Do not set the stack size to a value greater than 500 as you may exceed the memory on your device. For Office Printers, you may need to keep the stack size under 50.

### Pad last stack

Used to pad out the Multi-Up with blank records to account for an odd number of pages in the document.

### Insert slip sheet

Enable the check-box to add a slip sheet.

### Slip Sheet Text

Enter a string of text to print on the slipsheet.

### Type/Color/Weight

Use to define the paper used for the slipsheet.

### Enable grouping

Used to select a number of consecutive logical pages to be placed on the same sheet in sequence instead of the usual through the stack order. The number and order of the logical pages in the group depends upon the Filling Order and the total number of logical pages placed on the same sheet.



Note: The Z-sort option cannot be used with Prefixed Delimited Transactional Data VDE applications, as a transactional document is likely to contain a different amount of pages for each customer record set processed, based on the number of transactions processed per customer.

## FLATTENING

The Flattening panel consists of these options:

Number of layers per page with variable visibility:

### Min

The minimum number of different variable layers called via a visibility object that will be present on any page in the document when the job is rendered. For example, in a job with 50 individual layers for State, where only one State would actually be called at a time via visibility objects. The correct value to enter is 1. For the same job, but with an additional variable layer based on some other visibility object, the correct value is 2. This value is based on the entire document and should be the minimum number of visibility controlled layers on any page in the document. The minimum value is 1.

## Max

The maximum number of different visibility controlled layers on any page in the document. When two visibility controlled layers are used on page one, and only one is used on the other pages in the document, the correct setting for this value is 2.

## PAGE BOXES

The Page Boxes panel consist of these options.

**Page Boxes**

Offsets from the edges in points

	Top	Bottom	Left	Right
<input type="checkbox"/> Crop Box				
<input type="checkbox"/> Bleed Box				
<input type="checkbox"/> Trim Box				
<input type="checkbox"/> Art Box				

Page boxes panel enables the creation of optional page boundary boxes in a PDF output created. This option does not alter the PDF contents other than by adding the additional bounding boxes in the page. Applications rendering or processing the PDF downstream in the workflow may decide to process or ignore them. When the output of the VIPP® job is not a PDF file the command is ignored and has no effect.

We can enter the values for each page boundary boxes by enabling the appropriate check boxes against them.

**Page Boxes**

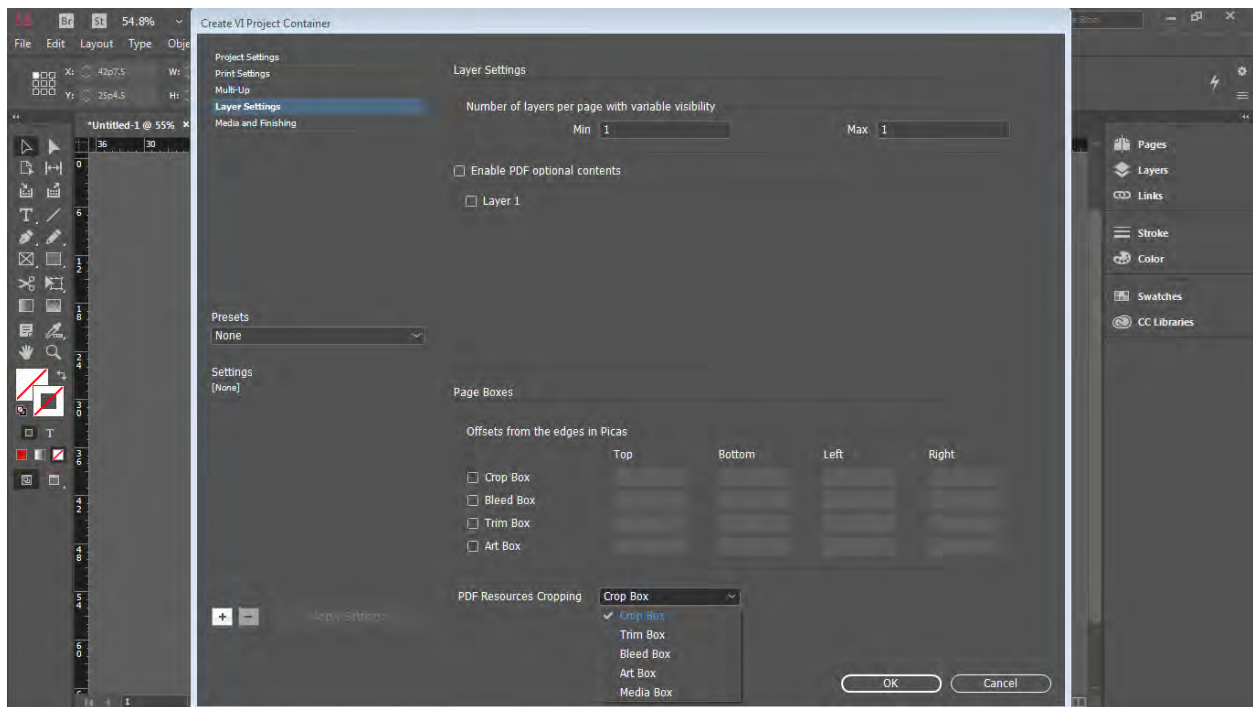
Offsets from the edges in points

	Top	Bottom	Left	Right
<input checked="" type="checkbox"/> Crop Box	50	50	50	50
<input type="checkbox"/> Bleed Box				
<input type="checkbox"/> Trim Box				
<input type="checkbox"/> Art Box				

The values must range from 0 to the width for left/right or the height for top/bottom of the sheet size.

## PDF RESOURCES CROPPING

This feature offers various cropping options like crop box, bleed box, trim box, and art box, which can be applied to the PDF placed in the InDesign document.



### MEDIA AND FINISHING

Media and Finishing is an optional selection that can be made during the export of the document. It allows you to define different media characteristics, plex options, and finishing options for each sheet, allowing you to create a document containing mixed plex, mixed substrates, and booklets. When you only use a single media selection and plex selection in the job, then it is not necessary to use this feature. However, when you plan to switch duplex on and off, change media within the job, or print a booklet, then you need to use the Media Selection feature.



Note: If using the VDE PDF output button, media and finishing options will not be passed to the PDF.

The Media and Finishing panel consists of these options:

**Media and Finishing**

☐ Enable media and finishing selection

Sheet 1  
(Page 1)

Media: DefaultMedia ▼

Plex: Simplex ▼

Finishing: [None] ▼

☐ New set

Define Media...

Define Finishing...

### Enable media and finishing selection

Check this box to enable the feature.

### Media

Use the drop-down menu to select a Media definition for the job.

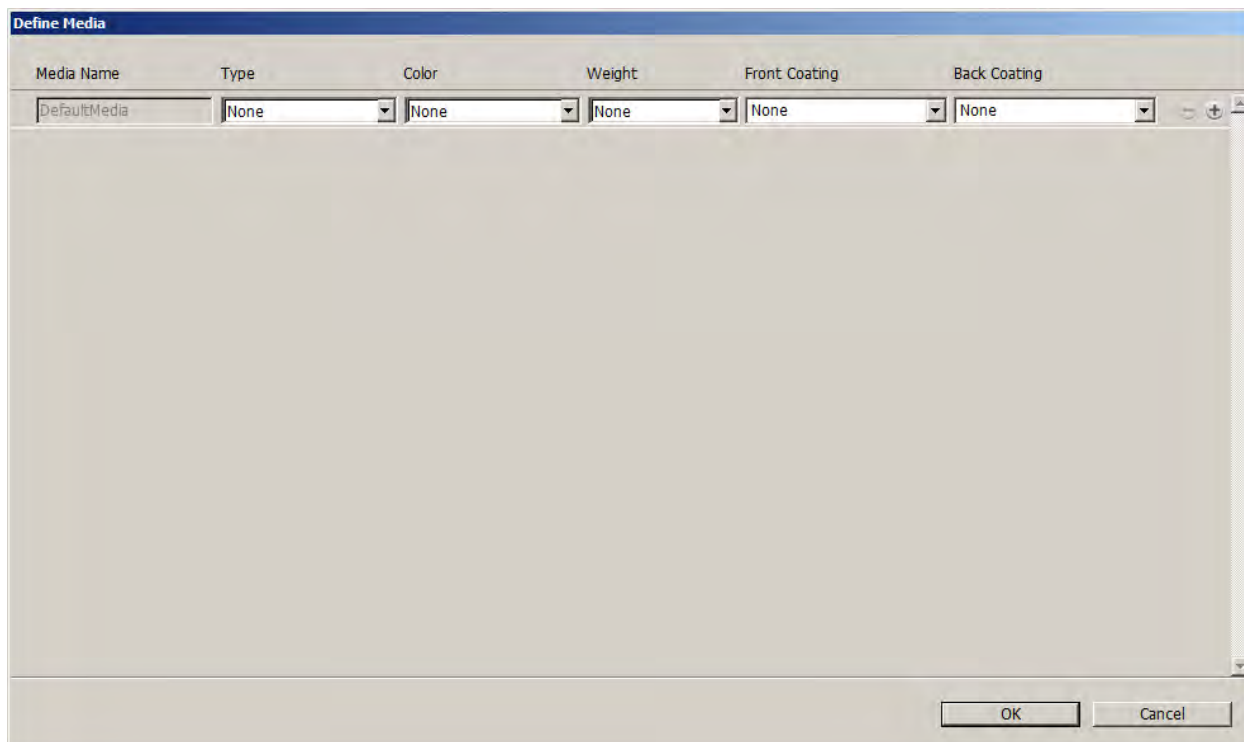
### Plex

Select the plex for the job from this drop-down list. These options are defined on the Print Settings tab.

### Define Media

Click this button to open the Define Media panel.

The Define Media panel consists of these options:



The 'Define Media' dialog box is shown with the following fields and values:

Media Name	Type	Color	Weight	Front Coating	Back Coating
DefaultMedia	None	None	None	None	None

At the bottom right, there are 'OK' and 'Cancel' buttons.

### Media Name

A user-defined descriptive name for the media type being defined. Before assigning media characteristics to a sheet in the document, first define and name each media substrate planned for use in the document. The Media Name is mandatory, all other attributes are optional. This is a label used to identify the media and associated attributes. This is the name that can be associated with a sheet in the document. The media name is limited to 24 characters (A-Z, 0-9) and is case sensitive, do not use the space character.

For the following attributes, you must select a value from the associated drop-down list. The list contains common entries available on the FFPS, including a custom option for some attributes. In addition, there is an Inherited and a None selection. Inherited means the attribute will inherit the previous value. When no value has been set, it will inherit the system default. The None option sets an empty attribute, no value is assigned to that attribute.

### Type

Choose a media type from the drop-down list, or enter a unique value, to set the media type. The Type attribute is limited to 30 characters (A-Z, 0-9) and is case sensitive. Do not use the space character. This is an optional attribute and can be left blank.

### Color

Choose a color from the drop-down list, or enter a unique value, to set the media color. The Color attribute is limited to 30 characters (A-Z, 0-9) and is case sensitive. Do not use the space character. This is an optional attribute and can be left blank.

### Weight

Enter the weight of the media being defined to set the media weight. You may enter a valid number. Refer to the FFPS or printer guide for valid weight ranges. This is an optional attribute and can be left blank.

## Front Coating

To set the front coating option for the media, select the coating found on the front side of the media used. This is an optional attribute and can be left blank.

## Back Coating

To set the back coating option for the media, select the coating found on the back side of the media used. This is an optional attribute and can be left blank.

The Define Finishing panel consists of these options:

The screenshot shows the 'Define Finishing' dialog box. It has a title bar and three tabs: 'Name', 'Actions', and 'Options'. The 'Name' tab is selected, showing a text input field containing 'Untitled'. The 'Actions' tab is also visible, showing a dropdown menu with 'Staple' selected, a checked checkbox labeled 'Default options', and another dropdown menu with '[None]' selected. The 'Options' tab is empty. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

### Name

A user-defined descriptive name for the finishing option being defined.

### Actions

Choose an action from a drop-down list of available finishing actions. Actions include:

- Staple
- Punch
- Fold
- Make Booklet
- Bind
- Offset
- Output Bin
- External Finisher

## Options

Use default options, or define your own options for each available action. When you choose to define options rather than using the default, VDE will display the options available per each action.

### Default options

Uncheck this box to use user-defined options.

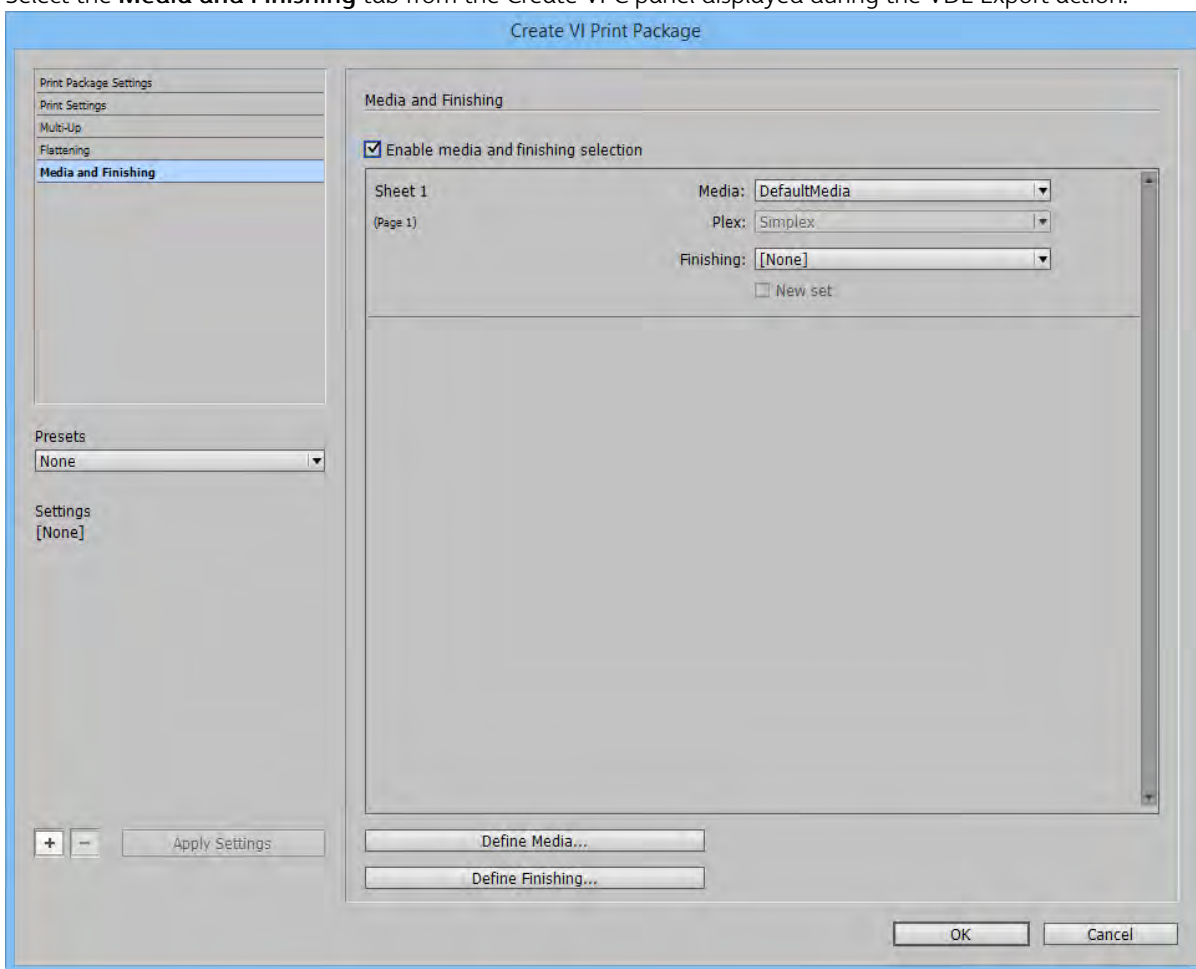


Note: When finishing options that are not supported by the target device are defined or used, unpredictable results can occur. Please check with your printer what in-line finishing options are available.

## Creating a Media Definition

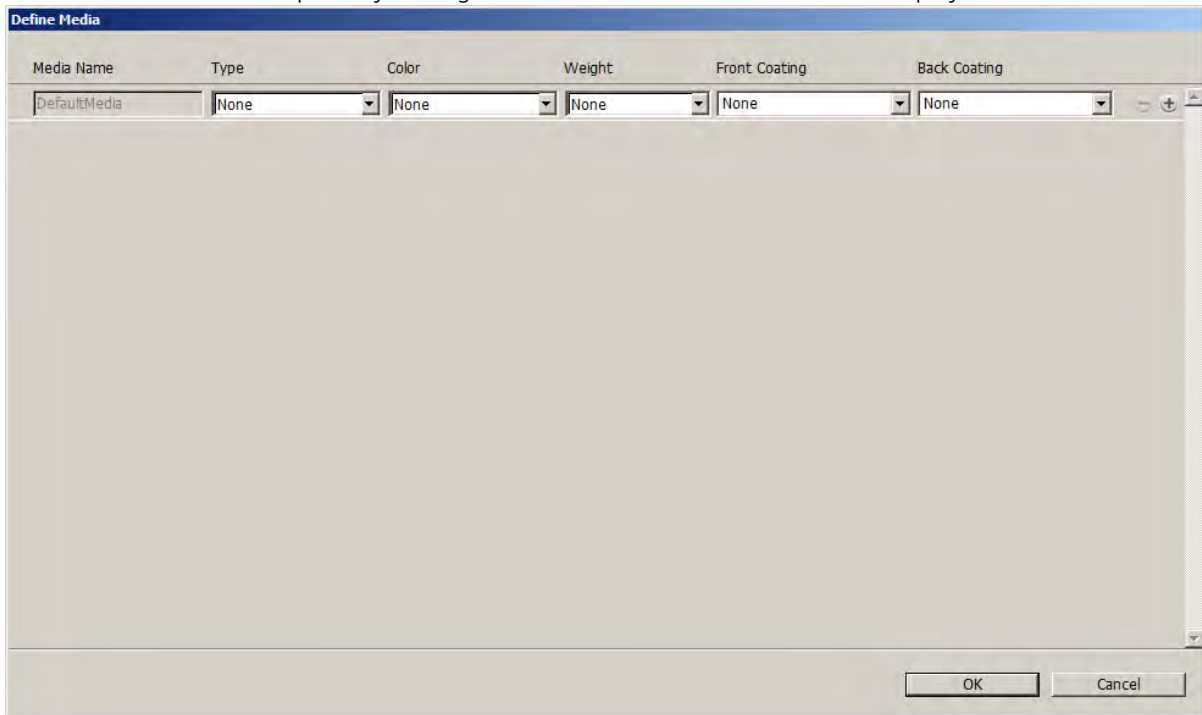
Follow these steps to create a media name (definition).

1. Select the **Media and Finishing** tab from the Create VPC panel displayed during the VDE Export action.





2. Select the **Define Media** option by clicking the **Define Media ...** button. This will display a Define Media Panel.



3. Complete one media definition for each media or substrate that you plan to use in the document. To add additional media definitions, click the + sign.

Once defined, the media can be assigned to a page using the Enable Media selection options found on the Media Selection tab.

### Assigning Media Names to a sheet

When you export the job, the media selection panel will display the number of sheets that will be needed to print one record of the job. The number of total sheets needed depends on these options, set during the export process:

#### Print Settings - Print on Both Sides

This option defines if simplex, duplex or tumble duplex can be used. When printing in simplex mode, one sheet will equal one page of the document, so, a 10 page document equals 10 sheets. When using duplex or tumble duplex, one sheet equals two pages front and back side.

#### Multi-Up - Enable Multi-Up

This option can enable you to print multiple logical pages on a single sheet. For example, a job set to use 1 across, 2 down Multi-Up setting (2-Up), two pages from the job will print on a single page. Therefore, a ten page document will print on 5 sheets. When duplex is also selected, you need a total of three sheets.

These steps will guide you through the assignment process:

1. The Media Selection screen displays the number of sheets needed to print a single customer record. Each sheet is labeled, starting with Sheet 1. Listed underneath the Sheet label are the page numbers that will be printed on that physical sheet front and back, when duplex selected. When you switch duplex on and off, the number of sheets needed to print the customer record will change accordingly.
2. To set the media attributes, click the **Media** drop-down for the corresponding sheet. The drop-down will list all the media definitions you made earlier.

- When the Print Settings - Print on Both Sides option is set to Off or no duplex, the plex option will be grayed out. When the Print on Both sides option is set to Duplex or Tumble Duplex, continuous Duplex/Tumble duplex is not supported because it is impossible to change media halfway through a sheet, you are able to select Simplex or turn duplex off or Duplex or turn on duplex. When duplex is turned on, it will use the Duplex option selected in the Print on Both Sides option.

### Media Selection for a Booklet

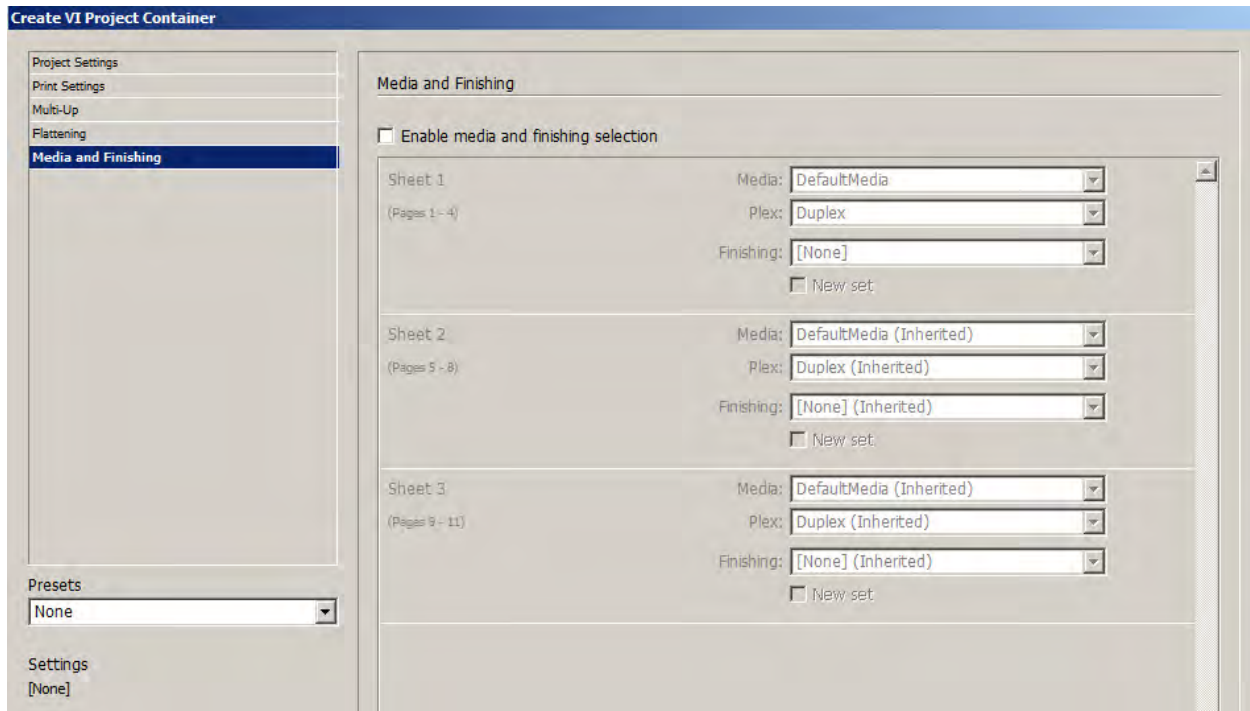
When printing booklets, different media settings for the various sheets in the booklet may be required. Use the Define Media option in the Export Panel, to define a media library for use when booklets are printed. For example, create two media definitions, the default media definition and a custom definition called Cover that has a heavier weight setting for use in booklet applications.

The 'Define Media' dialog box contains a table with the following columns: Media Name, Type, Color, Weight, Front Coating, and Back Coating. There are two rows of data:

Media Name	Type	Color	Weight	Front Coating	Back Coating
DefaultMedia	None	None	None	None	None
Cover	None	None	230.0	None	None

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

During the export of the booklet, media from this media library can be assigned to each sheet in the document.



In the screen shot above, the media Cover has been assigned to the first sheet, this is a heavier cover stock for the outside cover of the booklet. The rest of the sheets in the booklet will be printed using the lighter weight Default media. Sheet 3 will inherit the previous media settings if no other setting has been set.

VDE will show the logical pages that appear on each physical sheet. This booklet is made up of nine logical pages, imposed 2-up on a larger sheet size. Because the number of pages in the booklet is nine, the front and back of the last page has been padded by VDE, which is why the visual imposition of Sheet 1 only displays Pages 1,2.

### Creating a Finishing definition

Built-in finishing is defined as a finishing option supported on the device itself. This could be any of the following: Staple, Punch, Fold, Make Booklet, Bind and Offset. Not all devices support all finishing options. Verify the finishing support on the target print device before setting it in a job. In most cases, the finishing options selected will be ignored if not supported on the device, but unpredictable results may also occur.

In-Line finishing is defined as any external third-party finishing option that is attached to the target device. A Square Fold Booklet Maker is an example of an in-line external finisher. VDE can direct output to a tray and jog that tray at the end of a document set to trigger the finishing device to take the appropriate programmed action.

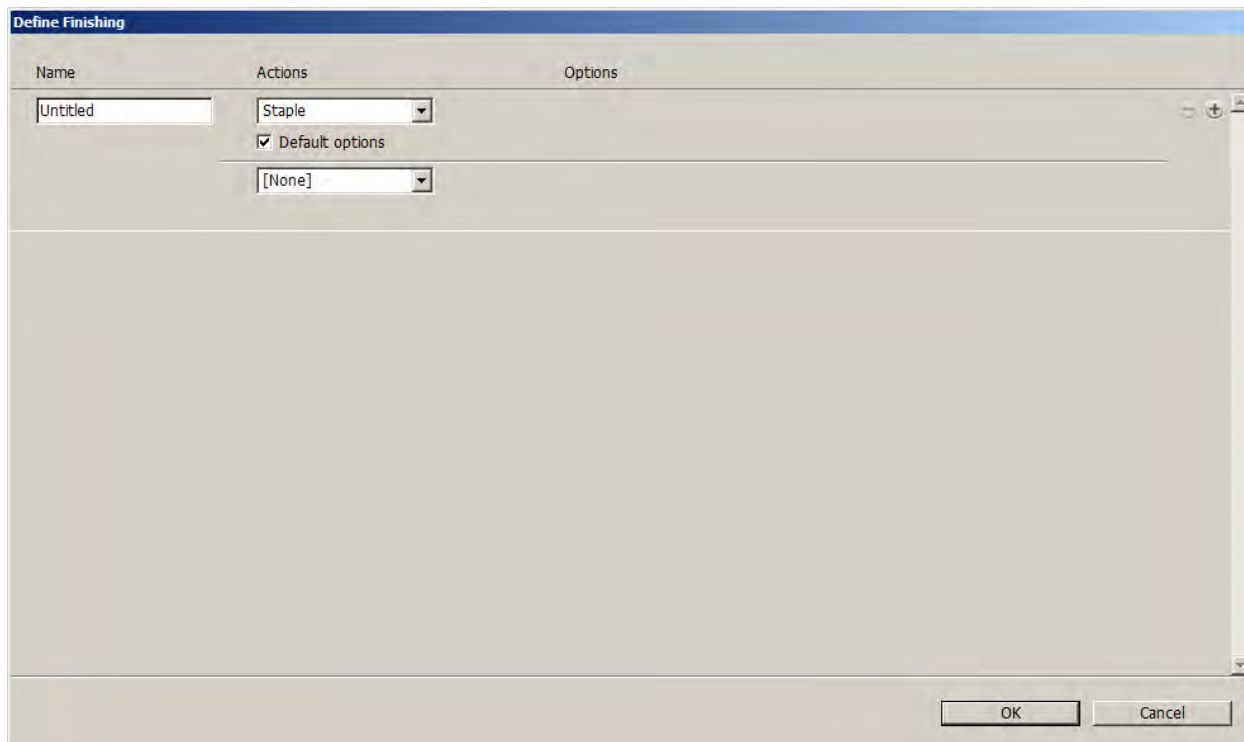
Finishing is first defined using the Define Finishing panel, then it can be selected using the Media and Finishing panel in the VPC Export panel.

For more information on control of finishing devices, please contact your local Xerox representative.

## Define Finishing Options

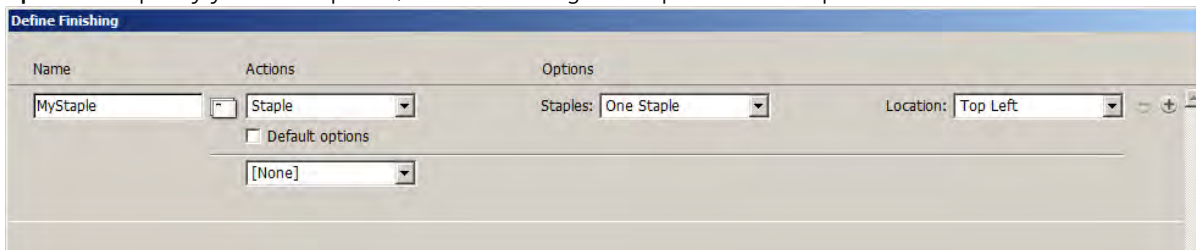
A library of finishing definitions can be created when exporting the document, much like Media definitions. Once the library is defined, definitions can be assigned on a sheet by sheet basis.

To add or modify finishing definitions, select the **Define Finishing ...** button located at the bottom of the Media and Finishing panel. This will display the Define Finishing panel. Use this panel to assign user-defined names to sets of finishing options.



Follow these steps to create a finishing definition:

1. Choose a **user-defined name** to describe the finishing option. In the example below, MyStaple is the user-defined name.
2. Select the (Finishing) **Action** required. In the above example, Staple has been selected. Uncheck **Default options** to specify your own options, instead of using the stapler's default options.



3. Select from the available Options for that Action. Here the action of Staple has two options: One Staple or Two Staples.

4. Select the available locations for the staple, based on the action Staple and the option selected.

This completes the building of a single Finishing definition called MyStaple. When MyStaple is selected and applied to a sheet or set of sheets, it will dual staple on the left of the page.

To add additional Finishing definitions, click the + sign and go back to step 1 above. These are sample finishing definitions:

The 'Define Finishing' dialog box contains the following definitions:

Name	Actions	Options
MyStaple	Staple <input type="checkbox"/> Default options [None]	Staples: Two Staples Location: Left
MyFold	Fold <input type="checkbox"/> Default options [None]	Fold Type: Z Fold <input type="checkbox"/> Trim Front Side: Outside Finished Width: 5.4213 in
MyMakeBooklet	Make Booklet <input type="checkbox"/> Default options [None]	<input checked="" type="checkbox"/> Saddle Stitch Strength: Normal <input checked="" type="checkbox"/> Square Fold and Trim Finished Width: 5.4213 in
MyJogTray	Offset Output Bin	Tray: TopTray <small>Select a tray from the list, or enter a tray name defined on the target printer.</small>

Buttons: OK, Cancel

MyStaple is set to dual staple on the left, MyFold is set to ZFold, MyMakeBooklet is set to Saddle Stitch, Square fold and trim. MyJogTray is set to deliver sheets to TopTray and offset.

### Setting Finishing Options

When the finishing definitions are created they can be associated at the sheet level using the Media and Finishing selection panel. Finishing uses a similar methodology as the Media selection.

A drop-down list of finishing definitions has been added to each sheet in the Media and Finishing list. This allows you to apply finishing options to either a sheet or a group of sheets.

Any finishing option selected will stay in effect until turned off or replaced by another finishing option. A finishing option can be turned off by selecting [None] from the pull-down menu.

Check **New Set** to apply the selected finishing to a specific set of consecutive sheets. A set starts on any sheet having the New Set box checked and ends on the sheet preceding the next sheet with New Set checked or on the last sheet.

Once the finishing options are selected for each sheet, continue to set other options. Once all settings are complete, select **OK** to generate the .vpc or .vpp file.



Note: Due to the variety of possible paper feeds (short edge, long edge), different devices and configurations, etc., it is recommended that you test your application to verify the correct finishing has been applied and adjust as required. For example, you may need to adjust the Staple location from left to right or top or bottom to produce the expected results.

## Limitations



Note: Currently the only way to validate finishing options is to print the application at the print device. You may also open the .vpc file using VI Design Pro, and review the VIPP® code.

- Continuous Duplex or Continuous Tumble Duplex options are not supported. This is because a job with an odd number of pages will start printing the first page of the next record on the back of the last sheet. If the first

page needs to be a different media type, it would not be possible to select this, as you cannot change media half way through a sheet.

- There is a maximum of 30 characters per user defined field and no space characters are allowed.
- SETMEDIA does not support Media Name only Type, Color and Weight. The media name is internal to VDE to maintain a separate media definition table and refer to a name in the media setting for a given job. However, the VIPP® code will use only Type, Color and Weight. Therefore, the number of media definitions for a given site is limited.

## EXPORT PRESETS

The Export Preset option allows you to select a set of pre-defined settings that can be applied to the document for Export. Two export presets are available, Booklet and Calendar. You can also save your current settings during the export operation and create your own custom Export Preset. When one of the Export Presets including any of the custom Export Presets you create is selected and applied, VDE will automatically apply the export settings contained in the Export Preset.



Note: When using the Preset option, it is important that you have previously selected a suitable sheet size for the printed document.

### Default Export Presets

#### Booklet

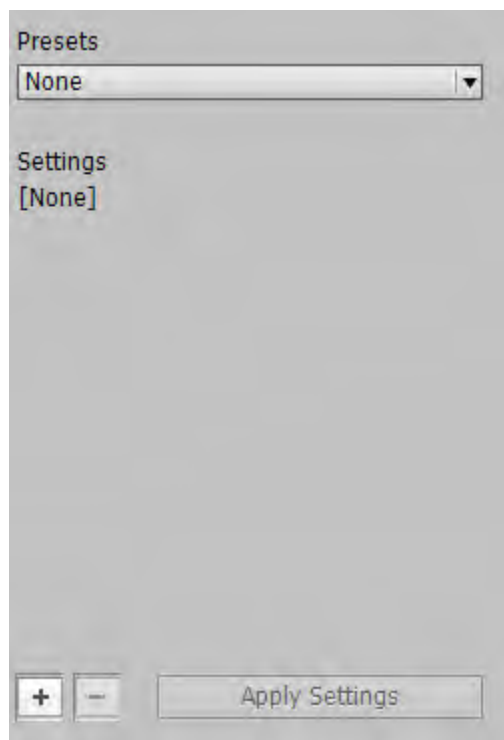
is used to re-order the pages for output in booklet format. It will take in the InDesign document, designed in page order 1,2,3,4,5,6 to n and re-order the pages in the output file to print in booklet format it does not alter the original InDesign document. For example, it could be used to re-order USLetter pages to print on a 11 x 17 sheet 2-up, you need to specify the 11 x 17 sheet size in a previous tab setting.

#### Calendar

is used to re-order pages of an InDesign document, designed in page order 1,2,3,4,5,6 ton and re-order as a portrait calendar. For example, it could be used to re-order A4 calendar pages to print on a A3 sheet 2-up, you need to specify the A3 sheet size in a previous tab setting.

## CUSTOM EXPORT PRESETS

A Custom Export Preset can be created by saving the current export settings.



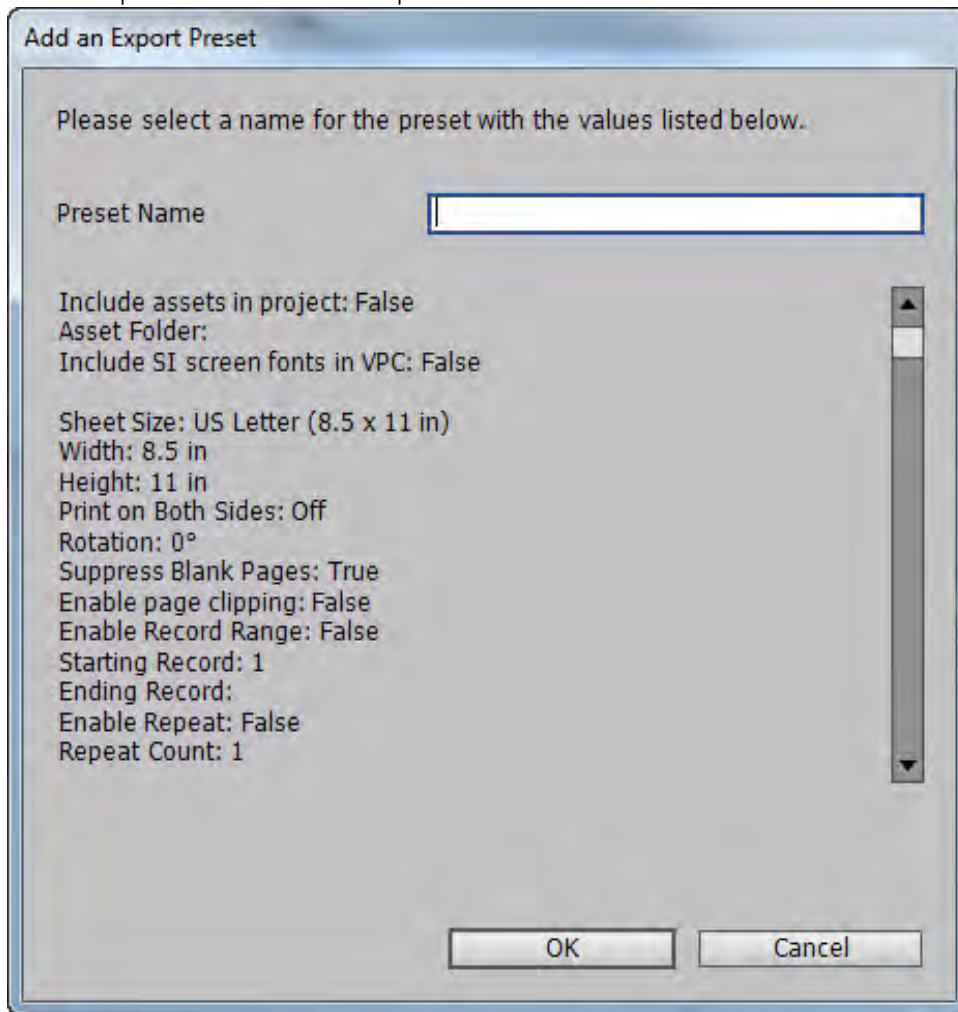
### Create a Custom Export Preset

To create a custom Export Preset

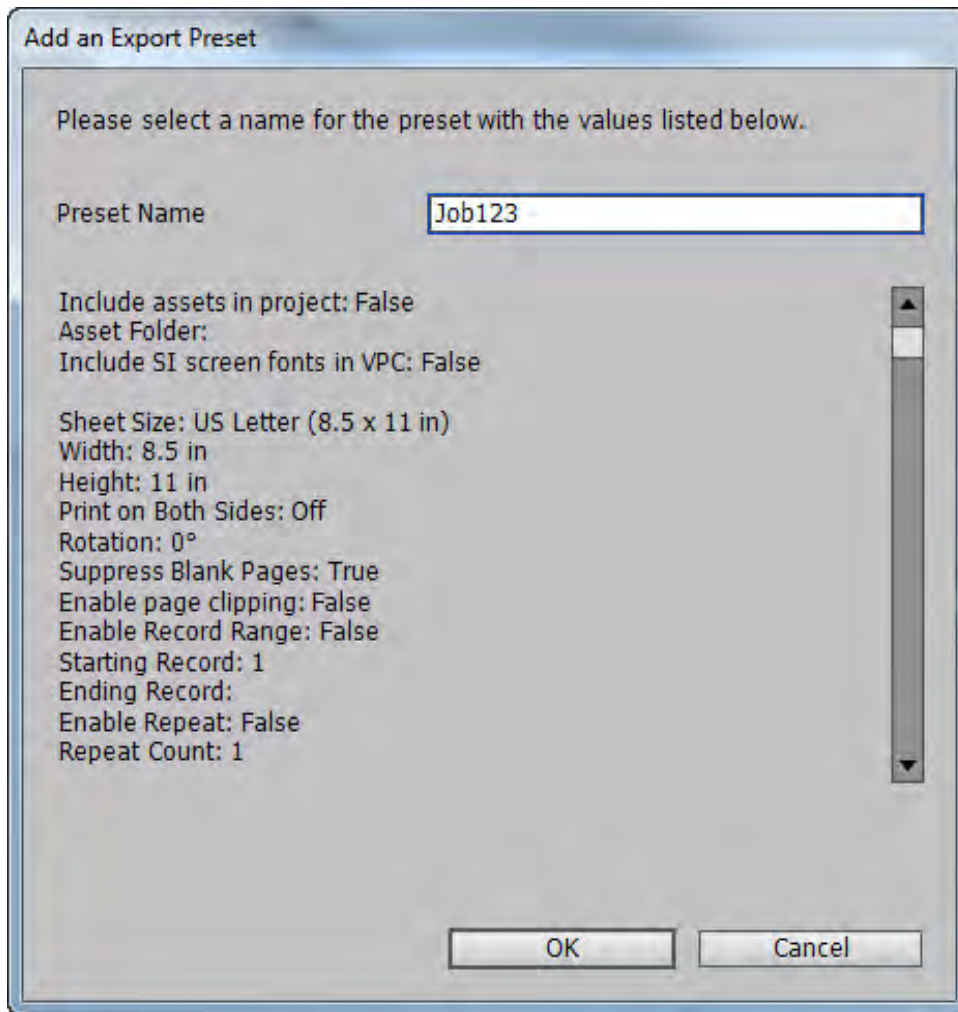
1. Select the options you want to save for this Export Preset.



2. Select the plus button on the Preset panel.



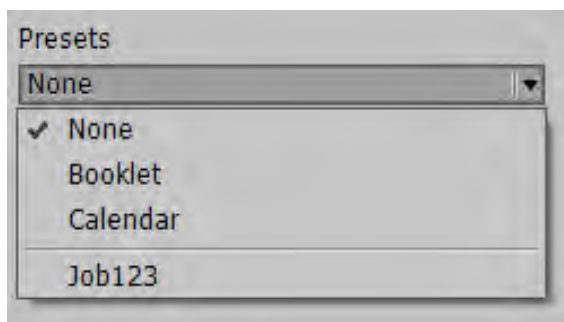
The Add an Export Preset panel will be displayed. This displays the current Export settings.



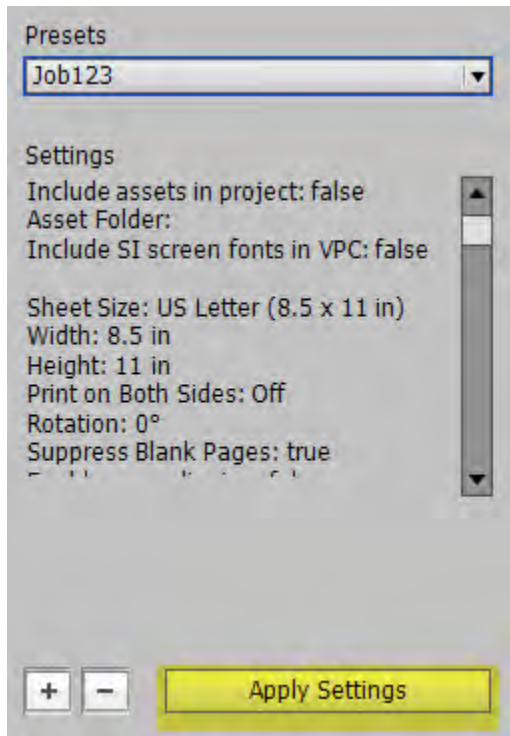
3. Enter a name for your Export Preset. In the example above the job name was used Job123
4. Click the **OK** button to save your custom Export Preset.

### Use a Custom Export Preset

To use a custom Export Preset



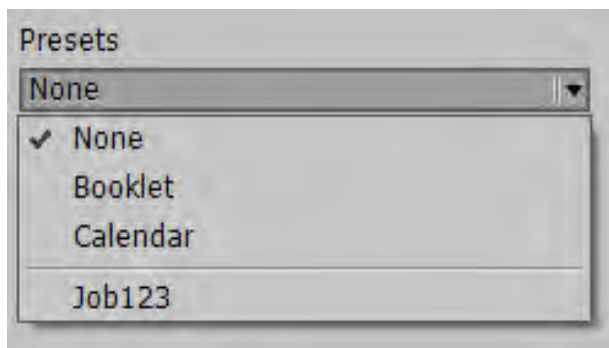
Use the Export Presets pull-down menu to select any of the two default presets or any of the custom Export Presets listed in the Preset panel.



The Preset panel lists the Export Preset settings. If acceptable click the Apply Settings option to apply those settings to the various Export settings that are available.

### Removing an Existing Export Prefix

To remove an existing Export Prefix select the prefix to remove by selecting it from the Export Preset pull-down list.



Only custom Export Preset options can be removed. You cannot remove the default presets (Booklet or Calendar).

With the Custom Preset selected press the minus key. A pop-up window will ask if you are sure you want to remove this Preset. Select **OK** to remove the custom Preset.

You can add a custom Export Preset and you can delete a custom Export Preset, there is no option to edit a custom Export Preset. To change any settings in an existing custom Export Preset, simply delete the preset and re-save the new custom Export Preset.

## Printing the VPP, VPC, or PDF file

Once the Export function has gathered all the required files, it will generate either a VI Project Container file (.vpc) or a VI Print Package file (.vpp). Which one it creates is based on the selection you made in the Export Save as type panel.

If you selected the VPC or VPP option, the file will be generated within minutes. If you selected the VDE PDF option, the PDF can take several hours to compose into a print ready PDF file. When the PDF file is ready, you may use any standard print method to print the PDF file.

### VI PRINT PACKAGE (.VPP)

The VI Print Package is optimized to support Xerox Office devices such as the Xerox 9203 ColorQube.

The .vpp file will contain everything needed to print the application to a VIPP®-enabled Xerox Office printer. Either save the .vpp file to your system and manually forward the file to the printer, or select a target printer from the Create VI Print Package panel.

If your printer is not listed in the drop-down list, you need to work with your system administrator to verify that the printer is available for your use.

When you select a printer, VDE will automatically forward the .vpp file to that printer. When you do not select a printer manually submit the .vpp file for printing. The .vpp file will be saved in the location specified.

When you check the Delete VI Print Package check box, VDE will delete the .vpp file. This is recommended to avoid filling the disk with print files.

### Prerequisites to Support Xerox Office Printers

In order to print the application, the target printer must have a valid VI Compose license installed. Without a license the job will abort after 10 pages.

If you do not have a valid license, you need to contact your Xerox Sales representative to obtain a license file. Store the license file in a safe location on your system.

To install the license file, you need to select the **VI Compose Printer License** option from the VDE panel menu.

This will display the VIC Printer License dialog. This dialog is used to print the License Request form (required to order the printer license), or, when you already have a valid license, to install the license to the printer.

To print the license request form make sure the printer shown in the Select a Printer to License list is the printer you need to license. If you have a different printer showing, the license request form will contain invalid information and Xerox will not be able to issue a license for that device.

Click the **Print License Request Form** button. This prints the license request form. Supply this form to your Xerox Sales representative or Analyst.

Once the License Request form has been processed, you should receive a Xerox VI Compose license file for that printer. Store the license file to a safe location on your system.

Browse to the license file location and select the correct **license file**. Click the **Load License** button. This will create a print file that will automatically be sent to the printer, and will install the license file on the printer.

When the license-installer print file stores the license on the printer's hard drive the printer is also VI enabled. This action should only need to happen once, however, if the printer shuts down or the file is erased from the printer

repeat the step above to re-install the license file on the printer.

## VI PROJECT CONTAINER (.VPC)

The VI Project Container (.vpc) is optimized to support Xerox Production devices such as the FFPS and EFI.

The .vpc file will contain everything needed to print the application to a VIPP®-enabled Xerox production printer. The .vpc file is created by VDE and stored in the file system at the location you specify. That saved location could be an FFPS hot folder from which the .vpc file will be automatically submitted to a printer queue. Or, manually submit the .vpc file for printing. Procedures may already be in place for the submission of files to the print system. Use those procedures to submit the VPC file to the print device.

Below is just one example of using lpr to submit a VPC file to the FFPS:

Windows operating system:

```
lpr -S ServerName -P PrintQueueName -o l Myjob.vpc
```

For the Mac operating system:

```
lpr -P PrintQueueName -l Myjob.vpc
```

```
lpr -P PrintQueueName -oraw Myjob.vpc
```

### Where:

lpr	is the lpr command.
-S ServerName	is the Server Name or IP address of the target printer.
-P PrintQueueName	is the target queue on the print device.
-o l	the lower case O and L are used to indicate a binary file submission. This preferred syntax tells the Windows system to treat the data stream as raw bytes rather than the default text file.
-l and -oraw (Mac)	the lower case L and oraw are used to indicate a binary file submission. They specify that the print file is already formatted and should be sent without filtering.
Myjob.vpc	is the VI container file. The full path to the container file may have to be specified.

## Setting the VPCF Filter option on FFPS

For information on setting up print queues and VPCF filters, review the printer or VIPP® documentation or contact a local Xerox Representative.

To print a VPC file directly to the FFPS:

- Create a **new queue** or select an **existing queue** to which the VPC will be submitted.
- Edit the **queue properties** and select the **VI Project Container Filter (VPCF) filter** option. Select the **Setup ...** button to launch the VPCF GUI with the available filter options. The VPCF option selected depends upon the job requirements.

### VPCF options

The project and folder names created by the options below are directly linked to the Project Folder name and Project Name defined during the export phase.

#### Print the .vpc file

##### Deploy Only

This option will deploy or expand the files in a VPC file to the printer's file system. It will create a project and folder under the /usr/xgfc directory, based on the project and job names identified during the export function of InDesign. It will not print the submission file. This option is typically used to pre-install job resources.

##### Deploy and Print

This option will deploy or expand the files in the .vpc file to the printer's file system. It will create a project and folder under the /usr/xgfc directory, based on the project and job names identified during the export function of InDesign. It will then print the application using the job submission file included in a VPC file. When completed, the job resources will remain on the print controller under the project/job name specified by the InDesign export function. This option is typically used to print jobs that might be run multiple times. Keep the resources on the device to run the job with a new data set without having to re-install image resources, etc. assuming the same resources are required.

##### Print and Forget

This option will deploy (expand) the files in a VPC file to the printer's file system. It will use a temporary directory. It will print the job using the print submission file. When a job has completed, it will remove all files related to that job. This option is typically used for jobs that are run once.

To print the .vpc file, once the configuration is complete, use the lpr function to send the .vpc file to the queue on the FFPS controller or use some other job submission client.

# Prefixed Delimited Transactional Data

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VI Design Express has the capability to create simple to moderately complex transactional documents driven by prefixed delimited transactional data files. For more complex transactional applications, VI Design Express can be used to create the base of the transactional application and the VI Design Pro tool or Xerox Professional Services can be engaged to add the complexity as required.

Transactional documents deliver critical content to the end customer. Examples of transactional documents include Phone Bills, Credit Card Statements, Invoices, Inventory Reports, etc. Transactional documents that include cross selling advertising are called Trans Promo documents and can be used to add value to the transactional documents you create. Using VI Design Express and prefixed delimited transactional data, you can create these types of applications quickly and easily.

A typical transactional document using prefixed delimited transactional data shares these design characteristics:

- There may be many individual prefixed data records per customer. That collection of records is referred to as a *Customer Record Set*. A typical print run for transactional documents may contain hundreds or thousands of customer record sets. Data for some specialty transactional documents, such as a Hotel Invoice, may contain data for only a single customer record set.
- The amount of data transactions per customer record set will determine the amount of pages generated for each customer. This only becomes known at print time. Some customers may have few transactions while others may have many transactions. A transactional document is typically designed to handle this by using a transaction continuation page for the overflow transactions. FreeFlow VI Design Express will handle this overflow condition automatically.
- A transactional document will contain a combination of records with Single Occurrence Fields (SOF), for example, records containing Name, Account Number, Address information, and one or more records with Multiple Occurrence Fields (MOF). The MOF contain the transactions. For example, local or international call details or credit card purchases. It is possible for there to be no transactions in a customer set if no transactions were recorded for that period.
- Typically, the first page of a transactional document contains the Single Occurrence Fields, often including a Payment Slip or an Amount to be Paid section. Depending on the application and the design it may also contain some Multiple Occurrence Fields i.e. Transactions.

- When designing a transactional document it may be reasonable to expect the number of transactions to exceed the space defined on any one page. While FreeFlow VI Design Express will automatically duplicate the last page containing MOF records, it is common for the designer to create a specific page layout for continuation pages that may not contain all of the SOF information found on the first page. This continuation page would then automatically be repeated until all MOF records were processed.



## Page Layouts

A transactional document can be a single page or many pages, based on the type of application and the number of transactions in the data file. Each customer record set can generate one or more pages based on the number of transactions for that individual customer.

When the data is processed, the application will use the various page layouts as needed. The application resets to the beginning page layout on a new front side of a page when a new customer record set is identified. The various page layouts that may be needed to handle a single customer record set all the information that will be printed for a single customer are described here:

- [Single Occurrence Field Master Page](#)
- [Multiple Occurrence Field Transaction Page](#)
- [Transaction Continuation Page](#)
- [Other Pages](#)

### SINGLE OCCURRENCE FIELD MASTER PAGE

A Single Occurrence Field Master Page is the first page of the transactional application, in some cases it may be the only page required. It will typically contain the name and address information and other customer details that appear once in the document. We refer to this type of data record as a Single Occurrence Field or SOF record. Some SOF fields may be used more than once in the document, but the SOF data record only appears once in the customer record set.

A Single Occurrence Field Master Page, if space is available, can also contain the start or all of the transactions for an individual customer record set. If the amount of transactions in an individual customer record set is likely to exceed the space allocated on this page, an additional transaction continuation page may need to be added to the design. This is described in [Transaction Continuation Page](#).

### MULTIPLE OCCURRENCE FIELD TRANSACTION PAGE

The Multiple Occurrence Field Transaction Page (MOF page) is a page that will contain transactions. It may also contain promotional messages or other information, but its main job is to display transactions. Transactions are the prefixed records containing Multiple Occurrence Field records (MOF's). For example, a Telephone Billing statement will contain transactions for each call made. The more calls made, the more MOF records for that customer record set.

The frame you create, and the table properties, dictate how many transactions each MOF page can accommodate. If there is a possibility that the number of transactions will exceed the space allocated on this page, the last MOF page in the design will be duplicated until all transactions are processed for that customer record set.

### TRANSACTION CONTINUATION PAGE

This is an optional page, as VI Design Express will automatically duplicate the last page containing MOF records until all MOF records are processed. However, if you want to create a different page layout for the MOF record continuation page, then you need to create a Transaction Continuation page. While this adds a page to your InDesign layout, this page will only print if MOF records being printed overflow.

## OTHER PAGES

Other pages can be added to the document. These pages may contain targeted advertising, images, terms and conditions, or other information to be printed in the transactional document. It should be noted that both the Multiple Occurrence Transactional Page and Transaction Continuation Page can also contain promotional material, although it will only be printed when there are enough transactions in the record set to trigger the printing of those pages - all driven by the prefixed delimited transactional data.

Because VI Design Express will duplicate the last page containing MOF records automatically, this does impose a strict rule that you cannot insert a non-MOF page for example, a full page image in the middle of the transaction (MOF) pages. A non-MOF page can be inserted before any MOF pages and can be inserted after the last MOF page, but it cannot be inserted between MOF pages. A MOF page can have static or variable images and text placed on the page, however, be aware that, as stated above, these images or text will only appear if that page gets printed.



Note: If a Customer Record Set has no transactional record, the first page designed to contain transactions may be printed or not depending on the Suppress Blank Pages check box in the Print Setting panel of the Export GUI. By default, that box is unchecked and the transaction page will print with an empty MOF table. If you do not want to print a page with an empty MOF table check Suppress Blank Pages when exporting the job.

## Sample Test Files

Sample transactional test files are available on the FreeFlow Variable Information page at [www.xerox.com](http://www.xerox.com). Select the Support & Drivers page, then select the Support and Drivers label. Enter **VIPP** in the search field and select **FreeFlow Variable Information Suite** from the results. Select the **Software** tab. Scroll through the available downloads until you locate **Sample\_Transactional\_Files.zip**.

The zip file contains two transactional sample files and step-by-step guides on how to create the two applications.



Note: The .indd files supplied in the zip file were created using InDesign CC 2014. However, using the supplied step-by-step guides you should be able to recreate both applications using CC2020 and CC2021. The instructions are in English only. Videos supplied in the zip file have no audio, you can add your own talk track in your own language as required.

## Transactional Workflow

A transactional workflow is very different from a promotional document workflow such as postcards or booklets. Promotional documents are generally designed for a single print run to support some marketing objective, such as a discount sale, and so on. These jobs can be designed in VI Design Express and exported as a VI Project Container (vpc file). The vpc file can be sent directly to a VIPP®-enabled printer in which the vpc is extracted, the resources installed on the device, the job run and then optionally, all files can be deleted. A VI Project Container workflow works well for these types of applications.

Transactional documents are typically run multiple times, often on a schedule. They can be run hourly, daily, weekly, monthly or on demand. What dictates when the application is run is when a new data file is available. A workflow in which you have to run the application through the VI Design Express design tool to generate the .vpc file for printing is not recommended, in part because the data file could be very large. Instead, you should use the Just Send the Data workflow VIPP® is known for.

### JUST SEND THE DATA

Just Send the Data is a workflow in which all you need to start the VIPP® job is a new prefixed delimited transactional data file that will be sent to a queue set up to run this type of VIPP® job. There are prerequisites to use this workflow:

- The resources used in the application must be installed on the printer or VI eCompose platform file system prior to running the job.
- The queue on the printer is configured to append the VIPP® start commands via an init file assigned to the queue, or the VIPP® start commands are prepended to the data file before submission to the printer queue. For more details refer to your Xerox analyst.

What this means is that you would design the application using VI Design Express and export it to a VI Project Container file as usual. In the design and testing phase you would use a small subset of a typical prefixed delimited transactional data file.

Once the job is exported to a VI Project Container (.vpc) file you can send the .vpc file to the target VIPP®-enabled print device to validate the design on the printer.

When sending the vpc file to a queue that has the VPCF filter enabled and set to Deploy and Print, the filter will extract all the VIPP® resources in the VI Projects Container file and install them on the printer's file system at the location specified in the project file. These resources will remain in place on the printer until manually removed or replaced. If targeting a different printer for production you will need to repeat these steps on that device.



**Note:** The action of sending the .vpc file to the printer will deploy the resources needed to print the job to the printer file system. The .vpc file also includes a sample init file that will also be installed to the projects folder. If just sending the data, the queue used should point to this init file, or the data file should have the start commands shown in the init file prepended to the data file before submitting to the queue. For more information regarding init files, VIPP® Start Commands, and printer queue properties, refer to your local Xerox analyst.

Once you have finished the design and validated that it is working as desired, to run the application in a production mode, you no longer need to process the data through VI Design Express. At this point you are ready to implement the Just Send the Data workflow.

When the application is scheduled to run, submit the data file directly to the queue used in the steps above. If the queue is correctly configured to use the init file, or the VIPP® start commands are prepended to the prefixed

delimited transactional data, the job will start to run.

## TEST ENVIRONMENT

A transactional document is more complex than any promotional document. A strategy needs to be established for the creation and testing of such an application before going into production.

It is recommended that you design your transactional document using a subset of your transactional data. Typically, a data file containing ten customer record sets of transactional data should provide you maximum coverage of the possible conditions that you need to test for, and verify the correct operation.

While the SOF data is placed in your document much like any other type of promotional document you have designed in VI Design Express, transactional fields (MOF Data) is very different.

For each type of transaction, you need to test minimums, maximums, and average transactional loads by creating prefixed data for:

- At least one customer record set that has one or more of every possible transaction type.
- At least one customer record set that contains enough transactional records to print a single transactional page.
- At least one customer record set that contains enough transactional records to print a Master Transactional page and one Transactional Continuation page to verify the overflow to a continuation page - where applicable for the application.
- At least one customer record set that contains enough transactional records to print a Multiple Occurrence Transaction Page and multiple transaction continuation pages to verify the transaction overflow across multiple continuation pages - where applicable for the application.
- At least one customer record that contains zero transactional records. You need to verify that your application can handle situations in which a customer made no calls or purchases.
- Several customer records that contain a combination of all of the above.

Test and validate that your application performs as expected using your test data. Once you have validated and tested your application, and providing your live data matches the layout and prefix of your test data, you should be able to Just Send the Data to the target print device for hard copy output or the FreeFlow VI eCompose for PDF output.

## InDesign Screen View and Actual Application Preview

VI Design Express does not process the transactional records during the design of the document, the layout shown in the InDesign screen preview will not match the printed document. This is because the InDesign layout is a conceptual design view of the SOF and the MOF data. While the SOF data is accurately displayed in the GUI, only the first instance of a MOF prefix is displayed in the GUI.

To see how your document will look when all transactional records are processed, you can preview it using the Export option VI Design Express PDF to generate a viewable PDF. The more records in your test file, the longer it will take to generate the PDF file for proofing. This is why it is recommended you limit your test file to between 10 and 20 customer record sets.

The first time you preview the document you will have to set the Export options. Once the options are set, they will be remembered the next time you preview the document.

## Prefixed Delimited Transactional Data Formats

Terms used to describe a prefixed delimited transactional data file are shown below:

- Header Record
- Field Descriptor
- Prefix
- Customer Record Set
- Root Prefix
- SOF
- MOF
- First Multi-occurrence Prefix
- Prefix/Field
- Delimiter Character

### HEADER RECORD

The header record in the prefixed data file is optional, it is ignored if present. If present in the data file, the checkbox Data File Contains header line must be checked in order for the data to be displayed correctly in the VI Design Express Data Panel. The header record may be a single field name, such as INPUT, or it may contain several field names separated by the separator character.

The Header record is optional because many data files created by queries or data processing applications may automatically add the header record. Since VI Design Express does not need it, it will ignore this record, if present, provided you have checked the Data File Contains header line. Failure to check this option, if the header record is present, will cause unpredictable behaviors.

### FIELD DESCRIPTOR

A Field Descriptor starts with a unique prefix. Field Descriptors are optional, but it is recommended that the database administrator supply the Field Descriptor information for each prefix used in the test data file. The field descriptor is used to make the data fields in the VI Design Express data panel more identifiable by assigning a short description for each field of a given prefix. The Field Descriptor entries are stripped out before processing the job. The production data need not have the Field Descriptor entries, if it does, they will be ignored.

The field descriptor syntax is:

```
$$FD$$,DataPrefix,Field1Description,Field2Description,FieldnDescription
```

Where:

**\$\$FD\$\$**

is the Field Descriptor prefix, which must begin and end with **\$\$** (default is **\$\$FD\$\$**). The characters between the beginning **\$\$** and ending **\$\$** are user definable, but must be the same for each Field Descriptor.

**DataPrefix**

is the actual prefix used for the data record for which you are creating the Field Descriptor.

FieldxDescription

is a short description of each field in that prefixed record. All characters used must be printable 7-bit ASCII characters.



Note: It is recommended that the field descriptor prefix is fewer than 10 characters and the field description is fewer than 20 characters.

## PREFIX

The Prefix is the first field of each record in the data file. It is used to identify each record in the customer set. A Prefix can be up to 32 characters, but it is recommended that the prefix be kept between 2 to 5 characters. The prefix name cannot contain any of the following PS token delimiters:

- Parentheses: ( )
- Square brackets: [ ]
- Curly brackets: { }
- Angle brackets: < >
- forward & backward slashes: / \
- Asterisk: \*
- Single quote: '
- Double quote: "
- Space Character



Note: In order to avoid confusion, it is recommended that you do not use a VIPP® reserved word or VIPP® command as prefix.

## CUSTOMER RECORD SET

Customer Record Set is used to describe all data records that make up a single customer data set. A transactional data file can contain one single customer record set, but more often will contain hundreds or thousands of individual customer record sets.

## ROOT PREFIX

The Root Prefix is the first data prefix in the data file. It is not the Header record or the Field Descriptor.

The Root Prefix is a special prefix used by VI Design Express to designate the start of a new customer record set in the data file. This could be considered similar to Skip-to-channel-1 used on the old mainframe transactional printers. When the data is processed and a Root Prefix is found, a new Front Master Page is automatically set as the new first page for that customer record set.



## SOF

SOF stands for Single Occurrence Field. These SOF fields are normally contained in the non-transactional records in a customer record set. They contain information such as Name, address, account numbers, payment history, and so on.

## MOF

MOF stands for Multiple Occurrence Field. MOF fields are fields contained in the transactional records in the customer record set. These contain the details of the transaction, such as Date, Time, Quantity, and Description of the transaction.

## FIRST MULTI-OCCURRENCE PREFIX

The First Multi-occurrence field is identified by VI Design Express in the Data File Properties panel when importing the data file into the design tool. Any record in the customer record set after the first multi-occurrence prefix is considered a transactional (MOF) record. SOF and MOF records cannot be intermingled in a customer record set, all SOF records must appear before the MOF records. Typically, you would not change this option, but if VI Design Express selects the incorrect first MOF record, you can use this option to set that.

## PREFIX/FIELD

The term Prefix is used to describe the first field of each record in the prefixed transactional data file. Field is used to describe the fields (after the prefix field) in that record. The prefix and fields are displayed in the VI Design Express data panel using the following syntax:

```
Prefixname_Fn Field Content
```

### Where:

Prefixname	is the prefix name used in the data record.
_Fn	is the field number (_F1, _F2, F3..... Fn).
Field Content	is the content of that field.

If a Field Descriptor is included as part of the data file (recommended) then the fields will be displayed using this syntax:

```
Prefixname_Fn (Field Descriptor) Field Content
```

### Where:

Prefixname	is the prefix name used in the data record.
_Fn	is the field number (_F1, _F2, F3..... Fn).
Field Descriptor	is the description of the field, for example, Amount Due.
Field Content	is the content of that field.



Note: Use of the Field Descriptor makes the design of the document and the selection of the appropriate fields from each record much easier.

## DELIMITER CHARACTER

This is the delimiter character used in the data file to delimit prefix and fields.

## EXAMPLES OF PREFIXED DELIMITED TRANSACTIONAL DATA FILES

Two examples of Prefixed Delimited Transactional Data Files follow. Both data formats are valid for VI Design Express.

### Prefixed Delimited Transactional Data file (With Field Descriptor)

Below is an example of a prefixed delimited transactional data file one Customer Record Set. The example is color coded to show each of the elements of a customer record set as described above.

```

INPUT
$$$FD$:Name:HotelName:HotelAddr1:HotelCity:HotelState:HotelZip:HotelPhone:HotelEmail
$$$FD$:Guest:Name:Addr1:Addr2:City:State:Zip:Country:Phone:Email
$$$FD$:Room:RoomNo:Rate:GuestNationality:ArrivalDate:DepartDate:...:CheckInTime:CheckOutTime
$$$FD$:Book:BookName:BookReference:HotelConf
$$$FD$:Payment:AmountDue:AmountPaid:CardType:CardNo:ApprovalCode
$$$FD$:Transfer:Date:Description:Notes:Charge
$$$FD$:RoomCh:Date:Description:Notes:Charge
$$$FD$:Taxes:Date:Description:Notes:Charge
$$$FD$:Internet:Date:Description:Notes:Charge
$$$FD$:Intake:Date:Description:Notes:Charge
$$$FD$:Laundry:Date:Description:Notes:Charge
Name:Xerox Hotel:555 S. Aviation Blvd:El Segundo:CA:90245:310-555-4783:XeroxHotel@xerox.com
Guest:David Kirk:123 Artesia Blvd:Apt 401:Redondo Beach:CA:...:david.kirk@somewhere.com
Room:315:180.00:USA:09/05/2015:...:Mary Davidson:RO:"03:19PM":"11:25AM":855844790:112906
Book:Xerox Travel:OXTJWD:193GH398-Z
Payment:$ 2,346.56:$ 2,346.56:AMEX:*****1234:DF8725
Transfer:09/05/2015:Transfer Pickup:Airport Pickup:$ 40.00
RoomCh:09/05/2015:Room Charge::$ 180.00
Taxes:09/05/2015:Luxury Tax Room 10%::$ 18.00
Internet:09/05/2015:Internet Charge:Day Rate - Room:$ 10.00
Intake:09/05/2015:seagull Restaurant SGB0231::$ 32.45
RoomCh:09/06/2015:Room Charge::$ 180.00
Taxes:09/06/2015:Luxury Tax Room 10%::$ 18.00
Internet:09/06/2015:Internet Charge:Weekly Rate:$ 30.00
Intake:09/06/2015:seagull Restaurant SGB0231::$ 32.45
Intake:09/06/2015:Anchor Bar BF384::$ 15.56
RoomCh:09/07/2015:Room Charge::$ 180.00
Taxes:09/07/2015:Luxury Tax Room 10%::$ 18.00
Intake:09/07/2015:seagull Restaurant SGB0231::$ 23.55
Intake:09/07/2015:Anchor Bar BF384::$ 10.23
RoomCh:09/08/2015:Room Charge::$ 180.00
Taxes:09/08/2015:Luxury Tax Room 10%::$ 18.00
    
```

In the data file shown above:

The **magenta text** represents the optional Header Line. In this example it has one field name called INPUT.

The **cyan text** shows the optional Field Descriptor records. The Field Descriptor prefix in the example above is \$\$\$FD\$, the data prefix is assigned based on the name of the customer record or prefix that will be described. A short

description of each field follows each field descriptor prefix. All parts of the field descriptor are separated by the delimiter character, in the example above, the : character is used as the delimiter character.

The **green text** is the Root Prefix. When processing the job, every time the Root Prefix is found, a new front page is created and a new customer record set starts.

The **red text** shows the Single Occurrence (SOF) records. These contain the non-transactional data such as name and address information.

The **dark green text** is the first multiple-occurrence (MOF) prefix. All records after this, up to the next Root Prefix, are considered MOF records.

The **gray text** shows the transactional records (MOF's).

### Prefixed Delimited Transactional Data file (Without a Field Descriptor)

Below is another example of a prefixed transactional data file. This example shows three customer record sets. This example has no Header line or Field Descriptor entries.

In this example:

- H0 is the Root Prefix, it is also a SOF record.
- H1 is an additional SOF record.
- H2 is another SOF record.
- T0 is the First MOF record.
- T1 is an additional MOF record.

```
H0,David,David L Kirk,36 Beech Road,Bushbury,Wolverhampton,West Midlands,ST10 9YF
H1,M2,5249 500 3658,0893 1272 7544 5087,04 March 2015,31MAR15,31 March 2015,30JAN - 28FEB,JAN15-
FEB15,005352,-005000,
H2,005045,004999,001000,000670,001030,013096,00500,01500,00428,01267,01695,000126,...,Evo1vcom 700F
T0,01JAN,9:00a,Humberside,2201 990 0003,24Hr,10,90
T0,02JAN,3:40p,West Aedale,0022 760 3303,24Hr,6,50
T1,01FEB,10:13a,Frankfurt,+49 621 41 12 15,24Hr,23,320
T1,02FEB,1:40p,Madrid,+34 515 14 13 12,24Hr,6,99
T1,03FEB,11:04a,Paris,+33 121 31 41 51,24Hr,10,150
H0,Helen,Helen E Tavener,23 Teasel Road,Fordhouses,Wolverhampton,West Midlands,ST10 8QA
H1,F1,7987 225 8232,7292 8840 2612 4303,...,20 March 2015,19JAN - 20FEB,JAN15-FEB15,004357,-004357
H2,004354,002999,000000,000478,000837,008668,00200,00900,00153,00724,00877,000126,...,Evo1vcom 400F
T0,01JAN,9:00a,Humberside,2201 990 0003,24Hr,21,180
T0,02JAN,9:00a,Humberside,2201 990 0003,24Hr,10,90
T0,05JAN,5:00p,Oxley,2201 990 0003,24Hr,8,70
T1,01FEB,10:13a,Frankfurt,+49 621 41 12 15,24Hr,23,320
T1,02FEB,1:40p,Madrid,+34 515 14 13 12,24Hr,6,99
T1,08FEB,11:04a,Paris,+33 121 31 41 51,24Hr,10,150
T1,09FEB,7:32p,Rome,+39 131 21 51 14,24Hr,16,210
T1,10FEB,10:27p,Zurich,+41 131 21 71 18,24Hr,12,180
H0,Ricky,Ricky Guy,611 Stafford Road,Pendeford,Wolverhampton,West Midlands,ST11 3JJ
H1,M2,2381 763 8097,7914 3657 8821 1967,...,25JAN - 26FEB,JAN15-FEB15,004895,-004895
H2,004595,003999,000000,000572,000921,010087,00300,01200,00234,00912,01146,000126,...,Evo1vcom 500H
T0,01JAN,5:00p,Oxley,2201 990 0003,24Hr,8,70
T0,02JAN,9:00a,Humberside,2201 990 0003,24Hr,10,90
...*
```

## Built-in Variables

VI Design Express provides some built-in variables to assist in the document design. A variable is like a field. The values contained in the variable change based on the current state of the data being processed. These built-in variables can be used to place data on the page or as an operand to build a rule condition.

Because VI Design Express will only display the first instance of each page created in the design, some variables will only contain a limited value. For example, when displayed in VI Design Express, the page count variable will always display 1, as VI Design Express will never display multiple transaction continuation pages. When the job is composed on the printer or exported to PDF for viewing in VI Design Express, the built-in variable will contain the correct values. For example, the variable VPPpageCount will be incremented for each page printed in a customer record set.

The following are the VI Design Express built-in variables:

- VPPpageCount (also shown in the Data Panel as VDE\_PageNumber)
- VPPpageTotal (also shown in the Data Panel as VDE\_PageTotal)
- VPPpreviousValue
- VPPnextValue
- VPPfirstValue
- VPPlastValue
- VPPspaceLeftInFrame
- VPPprefixName
- VPPruntimeProductName

### VPPPAGECOUNT (ALSO SHOWN IN THE DATA PANEL AS VDE\_PAGENUMBER)

VPPpageCount is the page number of the page in the final composed document for a given customer record set. In VDE this will always appear as 1, however, when the document is composed on the printer the page number will show the correct current page number.

### VPPPAGETOTAL (ALSO SHOWN IN THE DATA PANEL AS VDE\_PAGETOTAL)

VPPPageTotal is the total number of pages of the final composed document for a given customer record set. In VDE this will always appear as 1, however, when the document is composed on the printer the page number shown is the total page number.

### VPPPREVIOUSVALUE

VPPpreviousValue can be used in the right operand of a false/true Rule to compare the value of a MOF field with its value in the previous record.

### VPPNEXTVALUE

VPPnextValue can be used in the right operand of a false/true Rule to compare the value of a MOF field with its value in the next record.

### VPPFIRSTVALUE

VPPfirstValue can be used in the right operand of a false/true Rule to detect the very first transaction being processed for a given customer record set. The left operand can be any MOF field or VPPprefixName.

### VPPLASTVALUE

VPPlastValue can be used in the right operand of a false/true Rule to detect the very last transaction being processed for a given customer record set. The left operand can be any MOF field or VPPprefixName.

### VPPSPACELEFTINFRAME

VPPspaceLeftInFrame is a built-in variable that contains the amount of vertical height measured in points left between the current transaction and the end of the frame.

### VPPPREFIXNAME

VPPprefixName is a built-in variable that contains the prefix name of the current MOF record being processed.

### VPPRUNTIMEPRODUCTNAME

VPPruntimeProductName is a built-in variable that identifies the platform on which the job will be rendered. The most common values are:

Normalizer (VDE)	when exporting a PDF from VI Design Express
Normalizer (VIeC)	when producing a PDF with VI eCompose
Normalizer (VDP)	when exporting a PDF from VI Design Pro
FreeFlow VI Designer	when viewing the job in VI Design Pro
FreeFlow VI Explorer	when viewing the job in VI Explorer
Normalizer (FFPS)	when printing the job on FreeFlow Print Server/APPE

This variable can be used in rules and Data Transforms to vary the layout depending on the platform on which the job is rendered. For example, you may set up a visibility rule to disable the background form when the job is printed on pre-printed paper but keep it when a PDF is produced.



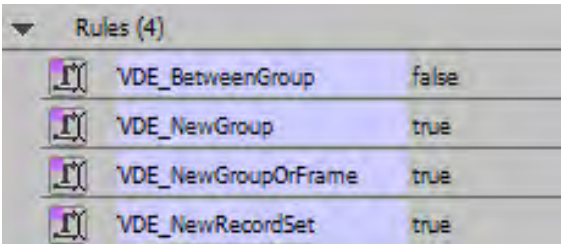
Note: If you are not sure of the value for a specific platform, use a Data Transform to insert VPPruntimeProductName in a text frame and print the job on the target device. The value of the variable will be printed on the page. In the VI Design Express GUI the value assigned to the variable is **Normalizer (VDE)**.





## Built-in Rules and Data Transforms

VI Design Express provides four built-in true/false rules to help with the document design. For more information about the use of rules, refer to [Rules](#). A true/false rule result is either true or false. This type of rule can be used in other rules or picked from rule lists in various option panels.

The following are the VI Design Express built-in rules:

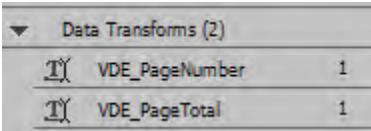
- [VDE\\_BetweenGroup](#)
- [VDE\\_NewGroup](#)
- [VDE\\_NewGroupOrFrame](#)
- [VDE\\_NewRecordSet](#)





Rules (4)		
	VDE_BetweenGroup	false
	VDE_NewGroup	true
	VDE_NewGroupOrFrame	true
	VDE_NewRecordSet	true

VI Design Express provides two built-in Data Transforms to help with the document design. The use of Data Transforms is discussed in [Data Transforms](#). The following are the VI Design Express built-in Data Transforms:

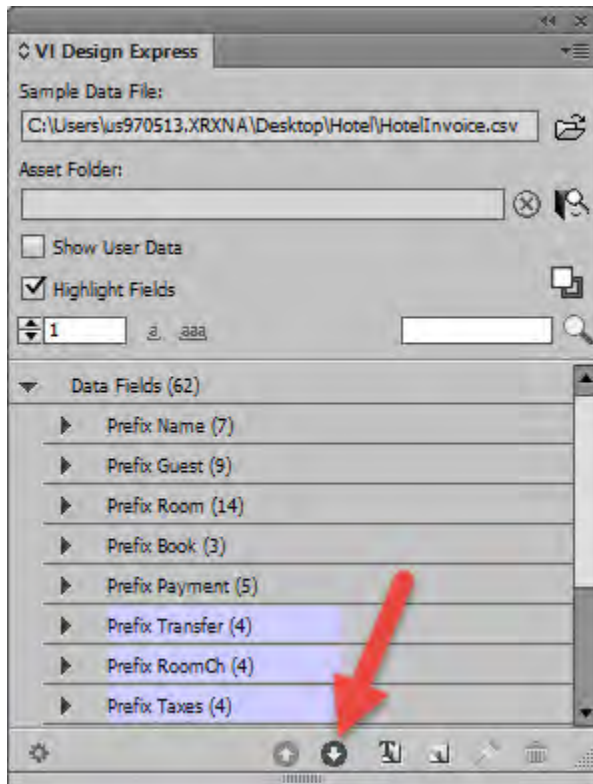
- [VDE\\_PageNumber](#) also known as VPPpageCount built-in variable
- [VDE\\_PageTotal](#) also known as VPPpageTotal built-in variable



Data Transforms (2)		
	VDE_PageNumber	1
	VDE_PageTotal	1

The built-in rules and data transforms are read only so you cannot edit them. If needed, you can reinstall rules and data transforms by importing them using the import rule/data transform option shown in the following graphic.





For Windows, if the VDE is installed on the C: drive, the file `VDE_PrefixedDataRules.dat` is located here:

On a 32-bit PC: `C:\Program Files\Xerox\VIPP\VDE\PredefinedRules`

On a 64-bit PC: `C:\Program Files (x86)\Xerox\VIPP\VDE\PredefinedRules`

## BUILT-IN RULES

### VDE\_BetweenGroup

This rule is true when a MOF prefix is different from the previous one except at the beginning of a new frame. You might use this rule in the Row Options panel to insert an extra row for instance, a blank row in your table between MOF groups.

### VDE\_NewGroup

This rule is true when a MOF prefix is different from the previous one. You might use this rule to reset a summation data transform covering a MOF group a group of consecutive records with the same prefix.

### VDE\_NewGroupOrFrame

This rule is true when a MOF prefix is different from the previous one or at the beginning of a new frame. You might use this rule in the Row Options panel to insert the group title in your table between MOF prefix groups and repeat it at the top of subsequent frames if the MOF group spans several pages.

### **VDE\_NewRecordSet**

This rule is true when the prefix indicating the very first transaction of a new customer record set is detected. You might use this rule to reset a summation data transform on the change of a customer record set.

## **BUILT-IN DATA TRANSFORMS**

### **VDE\_PageNumber**

The page number of the page in the final composed document for a given customer record set. In VDE this will always appear as 1, however, when the document is composed on the printer the page number will show the correct current page number.

### **VDE\_PageTotal**

The total number of pages of the final composed document for a given customer record set. In VDE this will always appear as 1, however, when the document is composed on the printer the page number shown is the total page number.



## Designing a Transactional Document

Transactional documents can be split into two categories:

- 

### Mixed Transactional

A mixed transactional document will list all the transactions for a customer record set one after the other. If there are multiple transaction prefixes, it will not matter. An example of a mixed transactional document is a credit card billing statement or a hotel invoice, in which the transactions will be presented (printed) as they were recorded in the data file.

- 

### Presorted Transactional

A presorted transactional document is one in which the transactions in the data file have been presorted into prefix groups. The transactions will still be printed in the order they are presented in the data file, but in the application design you may want to separate transaction groups into what would appear as separate tables. An example of such an application is a telephone billing statement, in which local, long distance and international calls are identified by separate prefixes and will be printed into what will appear as separate tables or areas on the document.

The process to create any Prefixed Delimited Transactional Data document is similar, the presorted document may require additional rules to control the layout of the transactional data.

The basic steps are:

- Review the data file and understand the field names, the data they contain, and where they will be used on the document. If you do not have this information, find someone that can explain this, as without this information you will not be able to design a transactional document. If possible ask the data administrator to include field descriptor records at the beginning of the data file.
- Create your first page layout.
- Import your Prefixed Delimited Transactional Data, making the necessary options to import the data file correctly.
- Design your first page. Typically, most of the SOF data will be printed on this first page.
- If MOF (Transactional) records are to be printed on this page draw a text frame on the page in which those transactions are to be printed.
- If you want VI Design Express to duplicate this page for transaction overflow then you can go straight to the transaction design section. If you want to create a new page layout for any transactional overflow, you need to add a new page for Transaction Continuation pages.

Once you have placed the SOF fields on your page and you are ready to design the transactional part of your document:

- Create a Text Frame in which you want the transactions to be placed. The frame should be wide enough and long enough to accommodate the transactions you want to print on that page.
- Insert the Transaction table into that text frame. To do this:

- Place the cursor in the first column of the text frame.
- Select the first MOF prefix in the data panel.
- Right-click and select **Create Transactional Data Table**.

This will add all the prefixes and prefix fields into a table in the text frame.

- Adjust the table columns to fit the data.
- Adjust the table properties as required for your design.
- Add VI Design Express rules and data transforms to control elements you may want in your transactional table, such as:
  - Headers or footers
  - Spacing Lines
  - Text that may only appear based on a condition, such as a total field
  - Other
- Preview your document often during the design to see how it will look when processing all the MOF records.
- When the design is complete, export it to a .vpc file and send that file to the printer for validation.
- Verify that all page breaks are as expected and that every page prints as expected.
- Run production.

## CREATING A TRANSACTIONAL DOCUMENT

### Preparation

Your Data Administrator should work closely with the application designer to describe the data file that has been previously extracted and made available to the design team. It is recommended that your data administrator become familiar with the Field Descriptor section of this document and include field descriptors in the data file for your use during the document design.

The extracted data file should be between 10 and 20 customer record sets for your design. The data file should contain data to test and verify that all the conditions and logic in the document. During the design phase it is not recommended to use the production data file that could contain thousands of records.

It is critical that the prefix names, number of fields in each prefix and the delimiter character used in the test file are the same as will be used in the production data file.

The data file must be a Prefixed Delimited Transactional Data file.

- 

### Prefixed

- meaning the first field of each record is a prefix. The prefix is a special field that identifies the type of information that will be contained within that prefix record. The prefix is used by VI Design Express to determine how that data will be displayed on the page.

-

## Delimited

meaning the data file is delimited. Fields that make up each record have a delimiter character between each field. In the case of the data file shown below, the : i.e colon character is used as the field delimiter.

- 

## Transactional

meaning this data file contains transactional (MOF) data records. There can be many transactions in a single customer record set. The transactions can be of the same prefix name or different prefix names. Depending upon the application being developed, the prefix names may be presorted into groups such as in a telephone billing application with all local calls grouped followed by International calls, or mixed such as in a credit card or invoice type application in which transactions will appear based on the date of the transaction.

The format of the prefixed delimited transactional data file can vary slightly as some parts of a Prefixed Delimited Transactional Data file are optional, as described in [Examples of Prefixed Delimited Transactional Data Files](#).

A Prefixed Delimited Transactional Data file may have the following parts shown as optional or mandatory:

- 

### Header Line or none below

A list of field names often seen in promotional delimited data files. The header line, and the field names it contains, are not of any use for VI Design Express; it is the prefix that is important for each record. Often a header line with a field name of Input is used, but this is optional and ignored when processing the data, however, if a header line is present, you must check the **Data file contains header line** check box in order for the Data File panel to display the data correctly. The Header Line is optional.

- 

### A Field Descriptor section

(Refer 1 below). This is highly recommended as it helps the designer understand the purpose of each field in any given prefix. Without understanding this information it is very difficult to design an application without intimate knowledge of the data file and each field purpose. The field descriptor uses the default \$\$FD\$\$ prefix. The Field Descriptor is informational only, and is ignored when processing the data. The field descriptor is optional but highly recommended.

- 

### Single Occurrence Records

Refer 2 below. These are prefix records that appear just once in the customer record set. In the data file example below there are five such records in each customer set. In this example these records contain information about the Hotel, the guest, the room, the booking agent, and the payment history. While this information may be printed more than once in the document, the record for it only exists once in the customer record set. This is why the record is described as a Single Occurrence Record. These are mandatory records in a transactional document.

- 

### Multiple Occurrence Records

Refer 3 below. This is the meat of the transactional document. These are the actual transactions. Sometimes the transactions are presorted by prefix, other times they may appear in random order based on when the

transaction was made and what type of transaction it was. In this Hotel Invoice application, several different prefixes are used based on the type of transaction, room charge, Tax, restaurant charge, etc. Because there are multiple transactions, these records are known as multiple occurrence records. There are multiples of these records in a single customer record set. These are mandatory in a transactional document, although not every customer record set will contain transactions. For example, if you did not use your credit card this month, there are no transactions to report.

### **Mixed Prefixed Delimited Transactional Data File Description**

The image shown below shows a typical prefixed delimited transactional data file. It contains the optional Field Descriptor section, however, it does not have a header line.

\$FD\$\$:Name:Hotel name:Hotel address:Hotel city:Hotel state:Hotel ZIP:Hotel tel.:Hotel email  
 \$\$FD\$\$:Guest:Name:Address 1:Address 2:City:State:ZIP:Country:Tel.:Email  
 \$\$FD\$\$:Room:Number:Rate:Nationality:Arrival:Invoice printed:Departure:Cashier:Pack, code:Check-In:Check-Out:Invoice ID:Invoice No  
 \$\$FD\$\$:Book:Agency:Confirmation:Hotel conf.  
 \$\$FD\$\$:Payment:Invoice:Paid:Card:Card Nr.:Code  
 \$\$FD\$\$:Transfer:Date:Description:Comments:Amount  
 \$\$FD\$\$:RoomCh:Date:Description:Comments:Amount  
 \$\$FD\$\$:Taxes:Date:Description:Comments:Amount  
 \$\$FD\$\$:Internet:Date:Description:Comments:Amount  
 \$\$FD\$\$:Intake:Date:Description:Comments:Amount  
 \$\$FD\$\$:Laundry:Date:Description:Comments:Amount  
 Name:Xerox Hotel:555 S. Aviation Blvd:El Segundo:CA:90245:310-555-4783:XeroxHotel@xerox.com  
 Guest:David Kirk:123 Artesia Blvd:Apt 401:Redondo Beach:CA:90278:USA:424-555-8832:david.kirk@somewhere.com  
 "Room:315:180.00:USA:09/05/2015:09/13/2015:09/14/2015:Mary Davidson:RO:"03:19PM":11:25AM":855844790:112906"  
 Book:Xerox Travel:OXTJWD:193GH398-Z  
 Payment:\$ 2,346.56:\$ 2,346.56:AMEX:\*\*\*\*\*1234:DF8725  
 Transfer:09/05/2015:Transfer Pickup:Airport Pickup:\$ 40.00  
 RoomCh:09/05/2015:Room Charge:\$ 180.00  
 Taxes:09/05/2015:Luxury Tax Room 10%:\$ 18.00  
 Internet:09/05/2015:Internet Charge:Day Rate - RoomCh:\$ 10.00  
 Intake:09/05/2015:Seagull Restaurant SGB0231:\$ 32.45  
 RoomCh:09/06/2015:Room Charge:\$ 180.00  
 Taxes:09/06/2015:Luxury Tax Room 10%:\$ 18.00  
 Internet:09/06/2015:Internet Charge:Weekly Rate:\$ 30.00  
 Intake:09/06/2015:Seagull Restaurant SGB0231:\$ 32.45  
 Intake:09/06/2015:Anchor Bar BF384:\$ 15.56  
 RoomCh:09/07/2015:Room Charge:\$ 180.00  
 Taxes:09/07/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/07/2015:Seagull Restaurant SGB0231:\$ 23.55  
 Intake:09/07/2015:Anchor Bar BF384:\$ 10.23  
 RoomCh:09/08/2015:Room Charge:\$ 180.00  
 Taxes:09/08/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/08/2015:Seagull Restaurant SGB0231:\$ 35.45  
 Intake:09/08/2015:Anchor Bar BF384:\$ 37.56  
 RoomCh:09/09/2015:Room Charge:\$ 180.00  
 Taxes:09/09/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/09/2015:Seagull Restaurant SGB0231:\$ 18.45  
 Intake:09/09/2015:Anchor Bar BF384:\$ 10.56  
 RoomCh:09/10/2015:Room Charge:\$ 180.00  
 Taxes:09/10/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/10/2015:Anchor Bar BF384:\$ 6.25  
 Intake:09/10/2015:Seagull Restaurant SGB0231:\$ 41.05  
 RoomCh:09/11/2015:Room Charge:\$ 180.00  
 Taxes:09/11/2015:Luxury Tax Room 10%:\$ 18.00  
 Laundry:09/11/2015:Laundry:\$ 30.00  
 Intake:09/11/2015:Seagull Restaurant SGB0231:\$ 30.25  
 RoomCh:09/12/2015:Room Charge:\$ 180.00  
 Taxes:09/12/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/12/2015:Seagull Restaurant SGB0231:\$ 37.54  
 Intake:09/12/2015:Anchor Bar BF384:\$ 16.21  
 RoomCh:09/13/2015:Room Charge:\$ 180.00  
 Taxes:09/13/2015:Luxury Tax Room 10%:\$ 18.00  
 Intake:09/13/2015:Seagull Restaurant SGB0231:\$ 45.00  
 Intake:09/13/2015:Anchor Bar BF384:\$ 22.00  
 Transfer:09/14/2015:Transfer:Airport Drop Off:\$ 40.00  
 Name:Xerox Hotel:555 S. Aviation Blvd:El Segundo:CA:90245:310-555-4783:XeroxHotel@xerox.com  
 Guest:Kevin Atkin:23 High Street:Horley:Surrey:RH16-8JL:England:0775-7369923:Atkin123@somewhere.net8937  
 "Room:729:255.00:England:09/01/2015:09/03/2015:09/03/2015:Ben Smith:CQ:"01:01PM":07:10AM":445849335:282398"  
 Book:Xerox Travel:ZSW91D:178AD391-D  
 Payment:\$ 995.74:\$ 995.74:VISA:\*\*\*\*\*1234:ZZ4562  
 RoomCh:09/01/2015:Room Charge:\$ 255.00  
 Taxes:09/01/2015:Luxury Tax Room 10%:\$ 25.50  
 Internet:09/01/2015:Internet Charge:Weekly Rate:\$ 30.00

Field Descriptor Section

\$\$FD\$\$:Name:Hotel name:Hotel address:Hotel city:Hotel state:Hotel ZIP:Hotel tel.:Hotel email  
 \$\$FD\$\$:Guest:Name:Address 1:Address 2:City:State:ZIP:Country:Tel.:Email  
 \$\$FD\$\$:Room:Number:Rate:Nationality:Arrival:Invoice printed:...:Check-In:Check-Out:Invoice  
 ID:Invoice No  
 \$\$FD\$\$:Book:Agency:Conf.:Hotel conf.  
 \$\$FD\$\$:Payment:Invoice:Paid:Card:Card Nr.:Code  
 \$\$FD\$\$:Transfer:Date:Description:Comments:Amount  
 \$\$FD\$\$:RoomCh:Date:Description:Comments:Amount  
 \$\$FD\$\$:Taxes:Date:Description:Comments:Amount  
 \$\$FD\$\$:Internet:Date:Description:Comments:Amount  
 \$\$FD\$\$:Intake:Date:Description:Comments:Amount  
 \$\$FD\$\$:Laundry:Date:Description:Comments:Amount

The Field Descriptor section shown uses the default \$\$FD\$\$ prefix name. You can create your own prefix, it must begin and end with \$\$\$. It can be up to 32 characters in length, but keeping it between 2 and 3 characters is recommended.

The field descriptor is used to describe each field in any particular prefix to make it easier to identify the data you are looking for to place on the page. For example, the line below:

\$\$FD\$\$:Name:Hotel name:Hotel address:Hotel city:Hotel state:Hotel ZIP:Hotel tel.:  
 Hotel email

provides the following information:

\$\$FD\$\$	is an indicator that this is a Field Descriptor
Name	is the Prefix name for this record
Field 1	is the Hotel Name
Field 2	is the Hotel Address
Field 3	is the Hotel Address City
Field 4	is the Hotel Address State
Field 5	is the Hotel Address Zip
Field 6	is the Hotel Telephone Number
Field 7	is the Hotel E-mail Address

The data shown in sections 2 and 3 in the graphic above, represents one complete Customer Record set. The next customer record set start in sections 4 and 5 and typically continues like that to the end of the data file.

Importing the Prefixed Delimited Transactional Data File

When importing the prefixed delimited transactional data file, check the **Data file contains prefixed multiple-occurrence fields** check box shown below in yellow highlight. This indicates to VI Design Express that the data file is to be treated as a Transactional data file.

**Data File Properties**

Data File Encoding: Western European (Windows-1252) [OK] [Cancel]

First Line of the Data File: \$\$FD\$\$:Name:Hotel name:Hotel address:Hotel city:Hotel state:Hotel ZIP:Hotel tel.:Hotel email

Data Field Delimiter:

☐ None

☐ Tab

☐ Space

☒ Other :

Decimal Delimiter: Period (.)

☒ Strip leading and trailing quotes

☒ Strip leading and trailing spaces for field data

☒ Data file contains prefixed multiple-occurrence fields

Check this checkbox only if your data file contains transactional data; i.e. multiple values within a single record field. Please refer to VDE user documentation for more details.

☐ Data file contains header line

Root Prefix: Name

First Multi-occurrence Prefix: Tran1

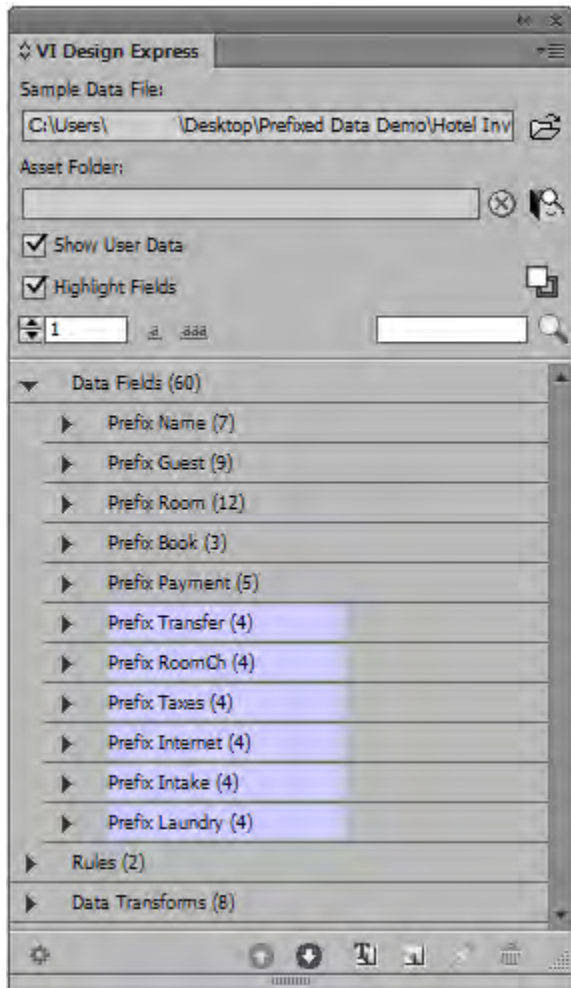
If the data file contains a Header Line, check the **Data file contains header line** box shown in the pink highlight above; if the data file does not contain a header file, leave this unchecked. If unsure ask your data base administrator.


If you have quoted fields in the data, check the **Strip leading and trailing quotes** option. Leading and trailing quotes are often inserted around a field in the data to protect fields that have the delimiter character in the field content. It stops that character from being interpreted as a delimiter character. If this is used, you must select the option to strip the leading and trailing quotes.

Review the other available options, when all required options are selected, select **OK** to import the data file into VI Design Express.

This will populate the VI Design Express Data Panel as shown below.





 Note: The Data Panel looks slightly different than the normal Delimited or XML data panel you may be used to. This is because transactional data files can contain a lot of data and to display many prefix records in a small space, each prefix is collapsed by default. Also, some prefixes are highlighted. The unhighlighted prefixes in the Data Panel shown above, are Single Occurrence Field records. These are prefixes that appear once in a single customer set. Typically, they would contain customer information such as name and address information, or account information, and so on. The highlighted prefixes are Multiple Occurrence Field records. While there may be several fields with the same prefix in each customer record set, they will only appear once in the Data Panel.



**Warning:** It is critical that the test data file you use for your design include at least one of every prefix used in the first 100 records of the data file. Failure to provide this will result in VI Design Express missing prefixes and not being able to print those prefix fields in your application.

You can expand any prefix to see the fields it contains. The number of fields within any prefix is shown in parenthesis at the end of the prefix name.

Because there are no meaningful field names in a Prefixed Delimited Transactional data file, as these would change from prefix to prefix, the following syntax is used by VI Design Express to name a field:

Prefix Name\_Fn

**Where:**



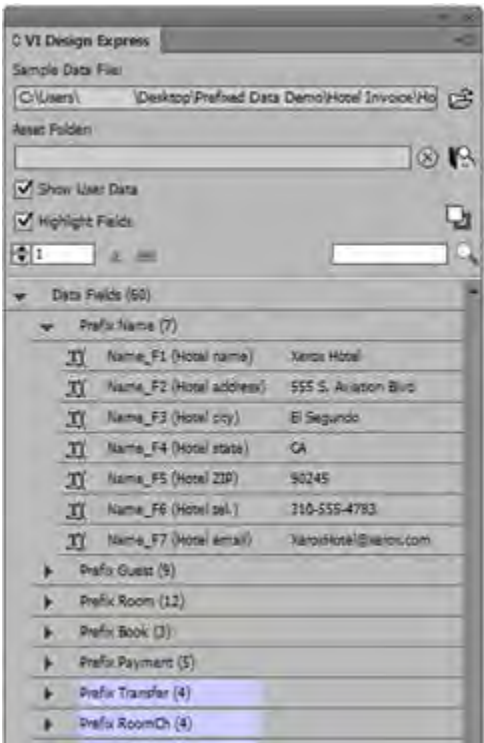
Prefix Name

\_Fn

is the name of the prefix. The prefix name is the name used in the first field of each record in the data file.

is the field position of a field within that prefix. \_F1 is the first field after the prefix.

The Data Panel shown below shows the Prefix Name record expanded to show the seven available data fields of the Name prefix. So, if you needed to place the name of the hotel, you would select the field *Name\_F1*. *Name\_F6* would provide the phone number, etc. These are the field names you would use to place data objects on the page.



**Sample Mixed Transactional Document**

The following is a sample transactional Hotel Invoice application using the data file shown above.

## Xerox Hotel Services

### El Segundo, California

David Kirk  
123 Artesia Blvd  
Apt 401  
Redondo Beach  
CA 90278

T 424-555-8832  
E david.kirk@somewhere.com

Invoice Amount: \$ 2,346.56

Final Invoice: 112906  
Invoice Date: 09/14/2015

Inhouse Guest:	Room No: 315	Cashier:	Mary Davidson
Rate/Code: \$180.00	Package Code: RO		
Nationality: USA	Check-In Time: 03:19PM		
Arrival: 09/05/2015	Check-Out Time: 11:25AM		
Departure: 09/14/2015	Invoice No: 112906		
Invoice Printed: 09/13/2015	Invoice ID: 855844790		

Booked By: Xerox Travel  
Conf: OXTJWD  
Hotel Conf: 193GH398-Z

Transfer 90

Room 1620

Taxes 162

Internet 40

Intake 414.56

Laundry 30

Date	Description	Comments	Amount
09/05/2015	Transfer Pickup	Airport Pickup	\$ 40.00
09/05/2015	Room Charge		\$ 180.00
09/05/2015	Luxury Tax Room 10%		\$ 18.00
09/05/2015	Internet Charge	Day Rate - RoomCh	\$ 10.00
09/05/2015	Seagull Restaurant SGB0231		\$ 32.45
09/06/2015	Room Charge		\$ 180.00
09/06/2015	Luxury Tax Room 10%		\$ 18.00
09/06/2015	Internet Charge	Weekly Rate	\$ 30.00
09/06/2015	Seagull Restaurant SGB0231		\$ 32.45
09/06/2015	Anchor Bar BF384		\$ 15.56
09/07/2015	Room Charge		\$ 180.00
09/07/2015	Luxury Tax Room 10%		\$ 18.00
09/07/2015	Seagull Restaurant SGB0231		\$ 23.55
09/07/2015	Anchor Bar BF384		\$ 10.23
09/08/2015	Room Charge		\$ 180.00

### Xerox Hotel Services

El Segundo, California  
United States of America  
www.XeroxHotel@xerox.com

T +1-310--555-4783  
F +1-310-555-3862  
E XeroxHotelElSegundo@xerox.com

License No. C2973-896736  
www.CalHotel.com

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09/13/2015	Luxury Tax Room 10%		\$ 18.00
09/13/2015	Seagull Restaurant SGB0231		\$ 45.00
09/13/2015	Anchor Bar BF384		\$ 22.00
09/14/2015	Transfer	Airport Drop Off	\$ 40.00
	<b>Total</b>		<b>\$ 2,346.56</b>

### Xerox Hotel Services

El Segundo, California  
United States of America  
www.XeroxHotel@xerox.com

T +1-310--555-4783  
F +1-310-555-3862  
E XeroxHotelElSegundo@xerox.com

License No. C2973-896736  
www.CalHotel.com

Page 2/2

The invoice can be a single page invoice or a multiple page invoice as shown above depending upon the length of stay, and the number of charges made by the hotel guest. The layout for the first and subsequent pages can be different. In the above example the Guest Information shown on the first page, contained within the outline box and the business graphic or bar chart, is not shown on the subsequent pages. A page number is displayed at the bottom of each page listing x of y pages.

The picture below is of the top half of page 1 showing the field names of each field placed in the document.

## Xerox Hotel Services

El Segundo, California

Guest\_F1  
Guest\_F2  
Guest\_F3  
Guest\_F4  
Guest\_F5 Guest\_F6  
  
T Guest\_F8  
E Guest\_F9

Invoice Amount: Payment\_F1  
  
Final Invoice: Payment\_F2

Inhouse Guest:			
Room No:	Room_F1	Cashier:	Room_F7
Rate/Code:	\$Room_F2	Package Code:	Room_F8
Nationality:	Room_F3	Check-In Time:	Room_F9
Arrival:	Room_F4	Check-Out Time:	Room_F10
Departure:	Room_F6	Invoice No:	Room_F11
Invoice Printed:	Room_F5	Invoice ID:	Room_F12

Booked By: Book\_F1  
Conf: Book\_F2  
Hotel Conf: Book\_F3

The picture below is of the same record, but showing the actual values of those field names.

## Xerox Hotel Services

El Segundo, California

David Kirk  
123 Artesia Blvd  
Apt 401  
Redondo Beach  
CA 90278

T 424-555-8832  
E david.kirk@somewhere.com

Invoice Amount: \$ 2,346.56

Final Invoice: \$ 2,346.56

Invoice Date:

Inhouse Guest:		Cashier: Mary Davidson	
Room No:	315	Package Code:	RO
Rate/Code:	\$180.00	Check-In Time:	03:19PM
Nationality:	USA	Check-Out Time:	11:25AM
Booked By: Xerox Travel	Arrival: 09/05/2015	Invoice No:	855844790
Conf: OXTJWD	Departure: 09/14/2015	Invoice ID:	112906
Hotel Conf: 193GH398-Z	Invoice Printed: 09/13/2015		

Date	Description	Comments	Amount
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It is recommended that you use the “Show User Data” check box in the VI Design Express Data Panel to toggle between field names and field contents during your design. Showing field names will allow you to track the data fields you are selecting. Showing the field contents will allow you to view the actual field content (text and graphics) in your document, and to adjust size or spacing as required.

### Name and Address Block

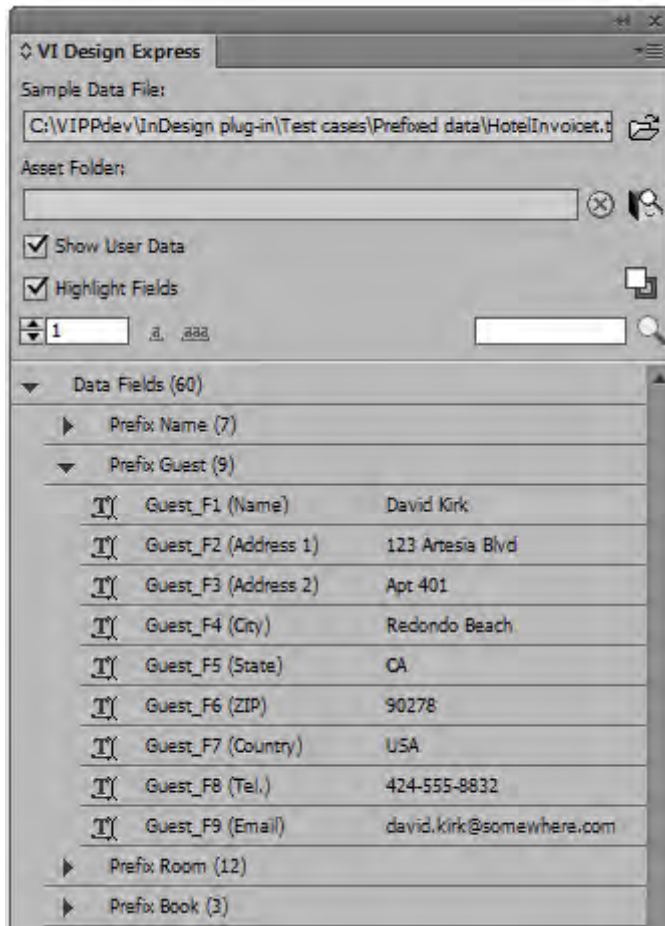
To create the name and address block you will need to select the following fields from the Guest prefix.

- Guest\_F1
- Guest\_F2
- Guest\_F3
- Guest\_F4
- Guest\_F5
- Guest\_F6
- Guest\_F8

- Guest\_F9

Placing any field element from a Single Occurrence record works as described earlier in this document, with the exception that you need to expand the prefix to get access to the fields within. Create a text box, with appropriate text attributes, and then double click on the field to insert.

1. Click on the chevron arrow for the Guest prefix to expand that prefix and make the fields within that prefix become available for selection.



2. Draw a text frame at the location you want the Name and Address information to be placed. Select the appropriate font attributes to be used.
3. Select the appropriate field from the Data Panel to create the complete name and address information. This is done by placing the cursor in the text box and then double clicking on the appropriate field in the data panel.
4. Once you have completed the Name and Address block, you may want to apply VI Design Express text fitting attributes, such as Fit in width and Suppress blank variable lines. These options ensure the names or address lines fit within the width of the text box and will suppress blank lines, for example, not all addresses will have an apartment or suite number.

Remember you can use the Show User Data and the Highlight Fields check box in the Data Panel to switch between field names and field contents and to toggle highlighting fields.



## Page Numbering

Page numbering such as 1/2 or Page 1 of 2, and so on, can be created using the built-in data transforms listed in the data panel. The two transforms VDE\_PageNumber and VDE\_PageTotal are displayed in the Data Transform section at the bottom of the VI Design Data panel.



To use these two Data Transforms

1. Create a text frame at the bottom center of the page.
2. Set the appropriate font attributes.
3. Enter the text **Page**.
4. Select the first Data transform **VDE\_PageNumber** and insert in the text frame.
5. Add a "/" character as a separator to print between the two page numbers.

6. Select the second data transform **VDE\_PageTotal** and insert in the text frame.
7. Repeat this for the continuation page if added.



Note: While designing the application these two data transforms will display 1 for both VDE\_PageNumber and VDE\_PageTotal. When you export the document to a .vpc or VI Design Express PDF, the correct page number and total pages in the customer set will be inserted. At this point it is recommended that you save your document.

## Placing the Transactions into your document

**Before you place transactions on your page you need to consider these factors:**

- Do you want to add transactions to page 1, or do you want to start your transactions on page 2? You may want to add payment coupons or advertising on page 1 for some types of applications.
- How many transactions do you want to display on page 1 or page 2, etc.? This will be based on the size of the text frame you generate and the size of each table line, based on the font and table attributes used.
- When the number of transactions in a customer set exceeds the space you have allocated, do you want VI Design Express to duplicate the current page or do you want to create a new page with a different page design for the overflow transactions? If you create a new page, VI Design Express will use that page for the overflow transactions until all transactions for that customer set have been processed.
- If you create a new page layout for the transaction overflow or Transaction Continuation page, you will need to duplicate the actions below on the Transaction Continuation page, or modify them to fit the new page layout you design.

**To place transactions the Multiple Occurrence Fields into your document:**

1. Create a text frame. The size such as height and width of the text frame, along with text and table attributes, will determine how many transaction lines can be printed in that text frame.
2. With the Text cursor flashing in the text frame, right-click on the first Multiple Occurrence Transaction in this Hotel Invoice it is the Transfer record.
3. Select Create Transactional Data Table.

This will automatically create a table in the text frame. The table will have a column for each field in each prefix. The table will insert as many rows as there are prefixes. In the case of the Hotel Invoice, it will insert six rows, one for each MOF record as shown, highlighted, in the Data Panel. This single action places all your MOF records into the table.

4. In the unlikely event you do not want a prefix to print, you can simply delete the prefix row. You can also delete columns if you do not want the data in those fields to print.
5. You can apply different text attributes to the various fields as needed, and adjust the column widths to fit the data contained in each column. For MOF records with less fields, you can regain the space of unused columns by applying Merge Cells, but always on a single row.

You should toggle the Show User Data check box to switch between displaying the Prefix\_field name and the actual data contained in the Prefix\_fields.

## Not all transactional records in the data file show up in the Design

As mentioned earlier, the view of your design in the InDesign Window will not look like the document after it has processed all the MOF records. This is because during the design phase VI Design Express is not processing data

records, it is just placing the record prefixes on the page design. Only the first instance of any MOF record will be shown in the GUI design tool. So although you will have multiple records with the same prefix, only the first one will be displayed.

In order to view how the document will appear when sent to a printer, you can proof the document using the VI Design Express Export function and export to VI Design Express PDF. This will generate a PDF that can be viewed and/or printed.

This action will process all transactions in the data file and create a PDF that is representative of how the document will look when printed to a printer. The time taken to generate the PDF depends on the number of Customer Record Sets in your test data file, and is a reason to limit the size of your test data file to between 10 and 20 customer record sets.

### Proof Print your Application to PDF

To proof your application to a PDF file for viewing, refer to the section [Proofing and Printing your Transactional Document](#).

### Adding additional controls to your Transaction Table

At this point the transactions have been dumped into your page design as they appear in the data file. In order to enhance the document presentation, some additional work is required to add business charts, additional row spacing, headers, footers, add labels and so on.



Note: When you add additional controls to your Transaction Master page to enhance the document presentation, you will probably want to make the same or similar changes to the Transaction Continuation page. Rather than duplicating the controls in the table of the continuation page, you can copy the table from page 1 into the continuation page and adjust the attributes to fit the design of that page.

### Business Graphics

A business graphic or Data Driven Graphic allows data to be shown as a Pie, Line, or Bar chart. In the Hotel Invoice application a bar chart will be created to show the totals for each of the six transaction types used in the application. The totals of each transaction type is not available in the data as a prefix field, however, a data transform can be created to sum each transaction prefix.

The data transform will sum all transactions of a certain prefix type in a single customer record set, and will reset to zero at the beginning of the next customer record set. For this test case you will need to create six data transforms, one for each MOF prefix.

Also, before creating the business graphic, you may need to create six colors in the swatches panel. One color for each prefix name. Creating additional color swatches is a normal function of Adobe InDesign and is not described here.



Tip: Create and save one Data Transform, then make changes to that data transform, changing it for the next prefix, and save it using a new name. This will save repeating most of the data transform settings.

### Create the Data Transform to Sum the Transfer Costs

To create the data transform to sum the Transfer costs:

1. Select the **Create a new data transform** icon at the bottom of the VDE data panel.



2. Enter a meaningful name for the data transform, for example, SumTransfer.
3. The data Transfer Type should be left as Text.
4. Select **Transfer** from the Multi-occurrence Prefix drop-down box.
5. Provide a description for this Data Transform, so someone else maintaining this application will know the purpose of the data transform.
6. Select the field **Transfer\_F4** as the start string from the drop-down box. Transfer\_F4 contains the cost of any transfer charge on the invoice for the current customer record set.
7. Select the Data Transform action, in this case you want to use the Summation action to sum all Transfer charges for this customer.
8. Select the **Reset on true** checkbox. This will reset the summation back to zero when the rule you select is evaluated to be true.
9. You want the summation to reset at the start of a new customer record set. There is a built-in rule that will be set to true when it identifies the start of a new customer record set. This built-in rule is called VDE\_NewRecordSet. Select **VDE\_NewRecordSet** from the drop-down box.
10. Select **OK** to save the Data Transform.

The data transform you created should look similar to the data transform shown below.

The screenshot shows the 'Create Data Transform' dialog box with the following settings:

- Data Transform Name:** TotalTransfer
- Data Transform Type:** Text
- Multi-occurrence Prefix:** Transfer
- Description:** Sum up transfer
- Start String:** Transfer\_F4
- Action:** Summation
- Reset on "true":** ☒
- Rule:** VDE\_NewRecordSet
- Repeat data transform:** ☐
  - Count:** 2
  - Separator:** ☒ Space, ☐ Tab, ☐ New line, ☐ Other

This is the first of six data transforms you will need to create for the summation of all six transaction types to be used in the business graphic.

### Generate the Other Five Data Transforms

To generate the other five data transforms, repeat the following actions using the values shown in the table below:

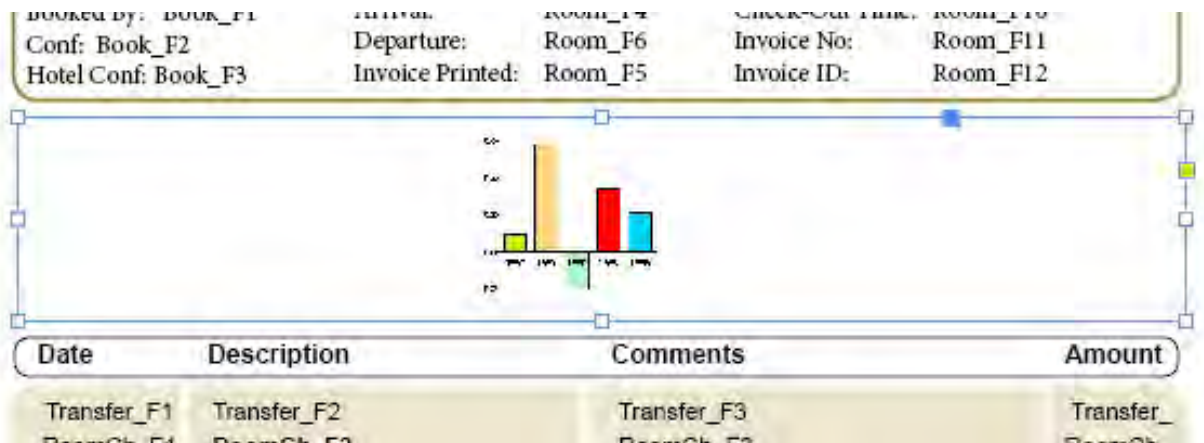
1. Highlight the data transform you just created in the VDE Data Panel.
2. Right-click and select **Edit Data Transform**.
3. Change the name of the data transform refer below.
4. Change the Multi-occurrence Prefix to the next transaction prefix refer below.
5. Change the description to reflect the transaction name.
6. Change the Start String to the next Prefix Name and field refer below.
7. Select **OK** to save the new Data Transform.

NAME OF DATA TRANSFORM	MULTI-OCCURRENCE PREFIX NAME	START STRING
SumRoom	RoomCh	RoomCh_F4
SumTaxes	Taxes	Taxes_F4
SumInternet	Internet	Internet_F4
SumIntake	Intake	Intake_F4
SumLaundry	Laundry	Laundry_F4

This creates six data transforms. Each data transform holds the total value for each MOF prefix , the Transfer costs, Room cost, Room Tax, Internet charges, Intake Restaurant, Bar and Gift Shop expenses and Laundry Services. With these values now available, you can generate the business graphic.

The business graphic will be a bar chart placed on the first page between the SOF data and the beginning of the MOF data.

Instructions for creating a business graphic are provided in [VDE Business Charts](#). Follow the instructions to create a bar chart. Use the six data transforms as the input data fields. Assign the colors using the six colors you created earlier.



During the design phase VI Design Express does not process the data, so it places a place holder graphic in the location of the business graphic. During the creation of the graphic you were able to preview its look and feel. You

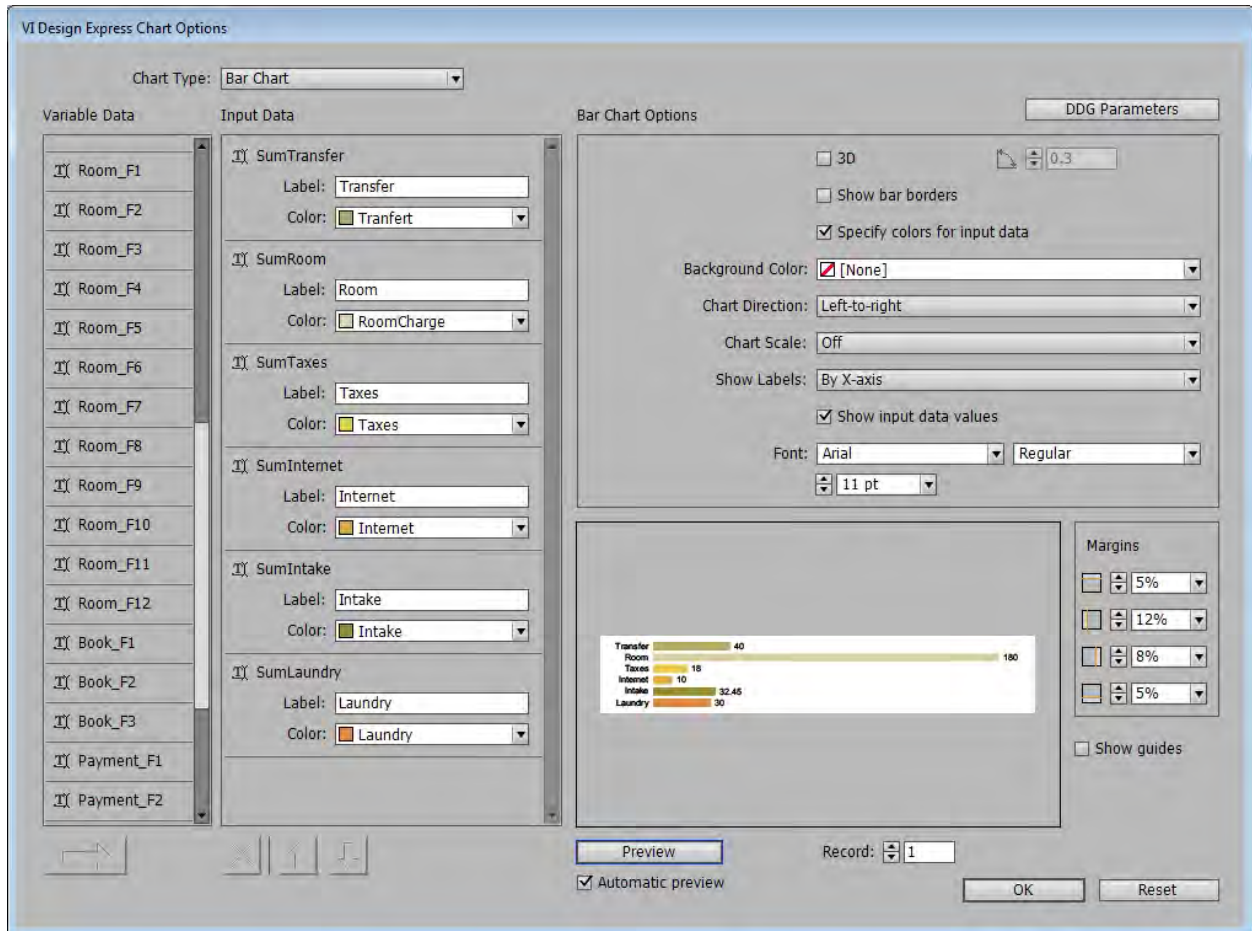
can also choose to Export your document to a VI Design Express PDF to view the final result. The PDF generation will process the records in your data file and render the pages as they will print.

Conf: OXTJWD	Departure: 09/14/2015	Invoice No: 855844790
Hotel Conf: 193GH398-Z	Invoice Printed: 09/13/2015	Invoice ID: 112906



Date	Description	Comments	Amount
09/05/2015	Transfer Pickup	Airport Pickup	\$ 40.00
09/05/2015	Room Charge		\$ 180.00

The VI Design Express Chart Options used to create the business graphic are displayed below. For more information on business graphics, refer to the section [VDE Business Charts](#).



This completes adding the business graphic. You can select any of the available business charts and options when generating your business chart graphic.

## Additional Row Spacing

There may be times when you want to add some additional row spacing capabilities to your application. In the case of the Hotel Invoice, you may want to add space between the dates that you stayed at the hotel, so that all charges for a single day can be clearly identified.

### Add a Row at the Top of the Table

To do this you must add a row at the top of the table. To insert a row do this:

1. Place the cursor in the top left cell of the current table.
2. Right-Click and select **Insert**.
3. Select Row, then select **Above** to create a new row above the current location.
4. Adjust the row properties as needed. For the Hotel Invoice we want the row to be about half the height of the other rows.
5. Insert the cursor into the new cell and highlight the complete row. Merge the cells into one column using the InDesign Table option Merge Cells, found under the Table menu item.

At this point you have created a small row above the MOF rows, however, if you were to export the document, you would end up with this small row being inserted between each prefix.

To fix this you need to create a rule that will only display this row when the Prefix\_F1 field, the date field for all MOF prefixes is not equal to the previous value, meaning it has changed and when the current record is not the first record in a new frame you do not want the space added at the top of a new frame.

## Create a New Rule

Create a new rule called NewDay that looks like this:

The screenshot shows the 'Create Rule' dialog box with the following configuration:

- Rule Name:** NewDay
- Rule Type:** Text
- Multi-occurrence Prefix:** All
- Description:** true is new day detected except on new frame
- Default value =** false
- Value =** true, when all of the following are true
  - Condition 1: Variable \*\_F1, Test [T] is not equal to (ignore case), Value VPPpreviousValue
  - Condition 2: Variable VPPnewFrame, Test [T] is equal to, Value false

1. Set the Rule Name to **NewDay**.
2. Set the Rule Type to **Text**.
3. Set the Multi-occurrence Prefix that will be considered for this rule, to **All**.
4. Enter a meaningful description, **true if a new day detected**.
5. The Default value should be set to false, by typing in the text **false**.
6. The Value should be set to true, by typing in the text **true**.
7. Change the test to **when all of the following is true**. This means both conditions shown below must be true for the NewDay rule to be considered true. Any action using this rule will only be triggered when the NewDay rule is evaluated to true.

## 8. Set the test conditions:

- The first condition tests if \*\_F1, which represents any date field, is not equal to the previous value. So for this test to be true the value in the current prefix F1 field, the date, must not be equal to the last date that was looked at and stored in the built-in variable VPPpreviousValue.
- The built-in variable VPPnewFrame must be equal to false. Meaning this current transaction did not exceed the previous transactional frame, thus, did not force an overflow condition into a new frame. This variable will be true only for the first transaction placed in a new frame, as soon as the second transaction is placed in the frame, this variable gets set to false.

Once you have created the rule that will be true only when the data field has changed and the transaction is not at the top of a new frame, you need to apply that rule to the new row created above. To do this you will use **VDE Table Options**.

**VDE Table Options**

VDE Table options are used to assign actions to a row. An action can be the result of a rule, built-in or user defined. When the rule is evaluated to true, that Table Row Option action will be applied.

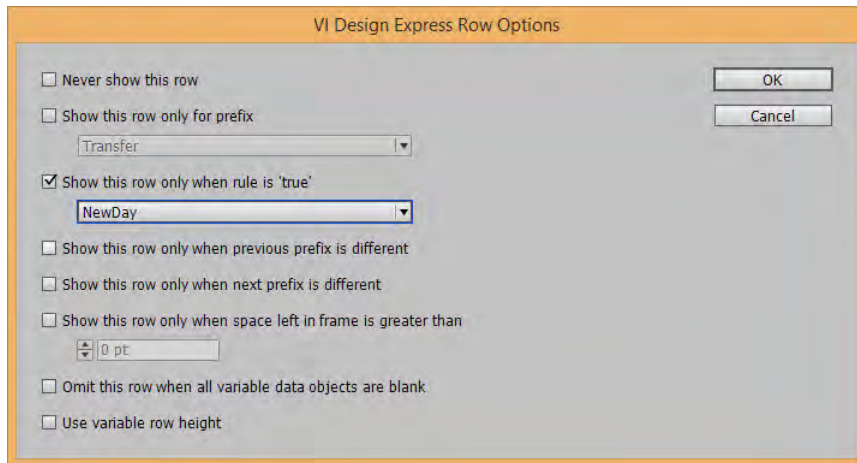
To access the VI Design Express Table Row Options panel, place the text cursor in the left cell of the table row. If the row height is small, you may need to set the font size attribute to a smaller font and reduce the row Text/Cells Insets in order to get the text cursor to be positioned in the row cell.

With the cursor flashing in the table row select **VDE Table Row Options** (the last entry in the drop down menu).

Paste	Ctrl+V
Font	▶
Size	▶
Clear All Overrides	
Find/Change...	Ctrl+F
Spelling	▶
Anchored Object	▶
Change Case	▶
Show Hidden Characters	Ctrl+Alt+I
Insert Variable	▶
Insert Special Character	▶
Insert White Space	▶
Insert Break Character	▶
Insert	▶
Delete	▶
Select	▶
Edit Footer	
Tag Text	▶
Autotag	Ctrl+Alt+Shift+F7
Interactive	▶
Edit in Story Editor	Ctrl+Y
InCopy	▶
New Note	
VDE Table Options...	
VDE Table Row Options...	

This will display the VI Design Express Row Options panel. The panel is displayed below.





The VI Design Express Row Options panel allows you to specify the eight different row options described below:

### Never Show this row

If you apply this option to a row, it will not be part of the printed document. That row and any information in it will not exist as far as the processed document is concerned. You may use this to temporarily hide a row in your table. You may also create a dummy row colored with some light gray for instance, so it can be easily identified to prevent adjacent MOF rows to inherit their horizontal common borders which is an automatic behavior in In Design. This is because, although adjacent in the design, these rows may not appear adjacent in the final composed document and automatic border inheritance is not desired.

### Show this row only for prefix

When you select this option, you need to select a prefix name from the drop down box. The drop down box lists all MOF prefixes in your data file. This option is used to show a row for a certain prefix only. For instance, if your data file is presorted and you want to sum up each prefix group, the row showing the summation for a given group should show only for that prefix and only at the end of the group, so **Show this row only when the next prefix is different** will need to be checked as well.

### Show this row only when rule is true

When selecting this row option, you must also select one of the available built-in or user defined rules listed in the drop down box. For example, you may use this option in the Hotel Invoice application with the user defined rule NewDay, that tests a change in date field and that the current transaction is not the first transaction in a new frame. If evaluated to be true, the spacing row you created will show in the final document. If evaluated to be false, that row will not show.

### Show this row only when previous prefix is different

This action will only show the row selected if the previous prefix was different. You can use this option to show a row with a text label when transitioning from one group to another. For instance, when processing phone calls you may place a conditional label or a rule, saying Local calls or International calls, in a row that will only show when you transition between the two groups.

### Show this row only when next prefix is different

This action will only show the row selected if the next prefix is different. For instance, if your data file is presorted and you want to sum up each prefix group, the row showing the summation for a given group should show only at the end of the group, or only when the next prefix is different. In addition, the action **Show only for that prefix** will need to be checked as well.



### Show this row only when space left in a frame is greater than

When using this row option, you need to specify the amount of vertical space left in the frame in points. The valid range is 0 to 1000 points. If the space left is evaluated to be greater than specified, the row will show in the current frame. If not, it will be discarded. You may use this option to place some thank-you text in the space left after the last transaction. To do that, place the text in an extra footer row and apply this option for the height of this row. If there is enough space between the last transaction and the end of the frame, the text will show. If not, it will be ignored.

### Omit this row when all variable data objects are blank

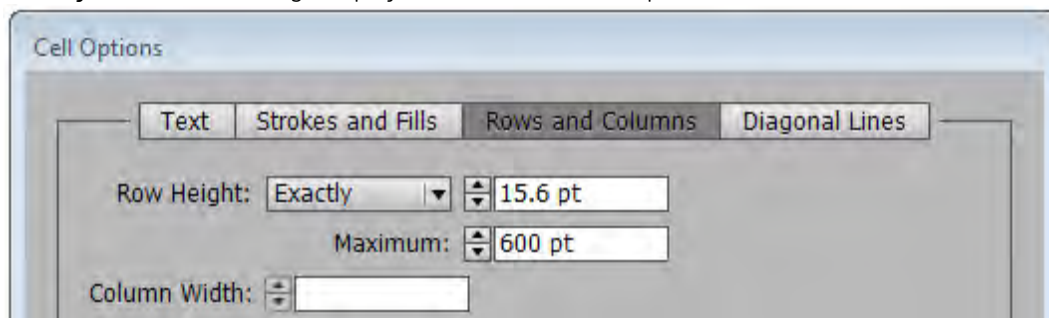
When this option is checked, a row containing MOF fields or rules and Data Transforms using MOF fields will not show if all these variable objects are blank. For instance, you may want to place conditional text or a rule before or after some transactions. For all the others the rule will deliver an empty string. In that case, if you do not want to show an empty row, select that option.

### Use variable row height

When composing the final document, VDE considers all rows as having a fixed height by default. If the contents of a given cell does not fit in the cell width, the font size will automatically be scaled down in order for the text to fit. If the contents of a cell has the potential to be very long, this behavior may not be appropriate as it may cause the text to be printed with a very small font size. When this option is checked, the row height will adjust automatically in order for the text to fit entirely in the cell using the selected font size. Only use this option on purpose, because it triggers additional processing at composition time and may impact performance.



Note: When this box is not checked it is recommended to set the Cell/Row Height option for the row to **Exactly** so that the InDesign display matches the final composed document:



### Applying a VDE Row Option to your application

You created an extra row at the top of the table for the Hotel Invoice application. You adjusted the row height to be approximately half the row height of the other rows. The intent is to use this row as a row spacer, to separate transactions in the table when the transaction data changes. For the Hotel Invoice this will make it easier for the hotel guest to identify what charges were made on what day.

You created a rule to test the date field for each transaction, and when the value changed from the previous transaction the rule is true. You also added an additional control so that this rule would only be true while the transaction was not the first transaction in a new frame containing the MOF table. You did this to avoid the spacing row being used as the first row in a new frame.

To apply this action to the spacing row you inserted into the table, you need to set the VI Design Express Row Option to use the Show this row only when the rule is true.

1. Make sure the text cursor is placed in the spacing row you created.

2. Click on that option in the VI Design Express Row Options panel and select the **NewDay** rule you created earlier.



Note: If you set this option on the first page containing MOF records, and you created an additional page layout for a transaction continuation page, then you may also want to apply these rules and Row options to the transactional continuation page. At this point you should save your document.

## Table Headers and/or Footers

Headers and Footers can be part of a MOF table. Headers may contain the column headings while footers may contain totals or other information normally seen at the end of a table. Refer to [VDE Table Options](#) for a description of the Table Row Options that can be applied to both headers and footers.

### Headers

Inserting a header into a table is a standard InDesign function. Use the Table Options panel to insert one or more header rows. You can edit the table attributes and text styles as required.

Once the header is set in the VI Design Express Prefix (MOF) table, it will repeat every time the MOF transactions exceed the current table frame and moves to a new frame.



Note: While headers may be a good idea, you may also set the control of your header information with the Table Row Options and rules using the VPPnewFrame built-in variable. Also, in most cases for simple transitional documents, it is often easier to create a static header using a simple text frame outside of the actual MOF frame and table.

### Footers

A footer will show text at the end of a table. It is useful for printing totals, etc. In the Hotel Invoice example you want to include a row that shows the Invoice Total at the end of the invoices transactions.

Creating a Footer row is also an InDesign standard table function. Select the Table Options to insert one or more footer rows into your MOF table. You will need to do this to your master page and transaction continuation page if used.

Set the table and font attributes for the footer rows. In most cases, so the footer information stands out, you will increase the row height, center the text in the row, or adjust space between the text and the top of the row and use a bold font or add color.

In the Hotel Invoice you want the text Total to appear in the second cell of the footer and the Invoice Total amount in the last cell of the footer. In the data file the invoice total is the field 1 under the SOF prefix Payment. So select **Payment\_F1** to place the Invoice total in that cell.

Save your document.

## Proofing and Printing your Transactional Document

Once you have completed your document and probably several times during the design of your document you will want to proof your document. You will need to do this to see how your MOF transactions will print when the document is processed on the printer. During the design phase, InDesign will only show the first instance of any MOF prefix in your design, and rules and built-in variables will not hold real values based on your multiple transactional records because during the design phase you are not processing data records. Only if you proof or print your document will the full data set with all available records be processed.

### Proof your Document to a PDF file for Viewing

To proof your document to a PDF file for viewing:

1. Save your application if you have not done so already.
2. Select the **File** option from the InDesign Menu bar.
3. Select **Export** from the drop down.
4. Select the destination location for the proof PDF.
5. In the Export Panel select **VI Design Express PDF** as the Save as type.
6. Enter a file name for the PDF such as **Hotel\_Invoice\_Draft**.
7. Select **Save**.
8. For the Hotel Invoice no changes are required to the Export options. Make sure the **Open PDF after completion** check box is selected, otherwise you will have to manually find and open the proof PDF file.
9. If you need to make other changes to the Export Options, refer to [Export and Printing](#). Other options may include specifying the target sheet size, imposition options, simplex or duplex options, etc. to be selected for the final output. These options are all described in [Export and Printing](#).
10. Select **OK**.
11. VI Design Express will start to process the document using the test data file used in the design. Once completed it will display a message to say the PDF was completed. To view the PDF, click **OK**.

### Print your Document to a VIPP®-enabled Print Device for Hard Copy Output

To print your document to a VIPP®-enabled print device for Hard Copy Output:

1. Save your application, if you have not done so already.
2. Select the **File** option from the InDesign Menu bar.
3. Select **Export** from the drop down.
4. Select the destination location VI Project Container file. This could be a FFPS hot folder or other location.
5. In the Export Panel select **VI Project Container (VPC)** as the Save as type.
6. Enter a file name for the VPC such as **Hotel\_Invoice\_Draft**.
7. Select **Save**.
8. For the Hotel Invoice no changes are required to the Export options.
9. If you need to make other changes to the Export Options, refer to [Export and Printing](#). Other options may include specifying the printed sheet size, imposition options, simplex or duplex options, etc. to be selected for the hard copy output on the printer. These options are all described in [Export and Printing](#).
10. Select **OK**.
11. At this point, VI Design Express will not process the data, instead it will generate a VI Project Container file. The VI project Container file will contain everything needed to print the applications, including resources and the data file provided the correct Export options are selected.

12. If you saved the VPC file to a FFPS hot folder, the job will already be processing in the queue associated with the FFPS hot folder. When the job processes it is reading the VIPP® templates created by VI Design Express when you exported your application against the data file and resources in the VPC file that have been transferred to the target printers file system.
13. The action of printing the VPC file will install the jobs resources and VIPP® template files onto the printer correct VPCF filter options are required on the printer, see your Xerox analyst for additional details. If you want to rerun the job, or run the job using a new data file that must match the test data file as far as format, you can Just Send the Data file to the printer, you do not need to run the new data file through VI Design Express. Your Xerox analyst, or Xerox Professional Services, may be engaged to demonstrate and set up your Just Send the Data workflow.

## CREATING A PRESORTED PREFIXED DELIMITED TRANSACTIONAL DATA DOCUMENT

Presorted Prefixed Delimited Transactional Data is a data format in which the transactions for each customer record set are presorted into transactional groups. The data for a telephone billing statement is a good example of presorted data. In this data file all local calls will be grouped before all international calls for each customer record set.

Below is a sample of a presorted prefixed transactional delimited data file.

```
H0,Kerry,Kerry L Walton,36 Beech Road,Bushbury,Wolverhampton,West Midlands,ST10 9YF
T0,01FEB,9:00a,Humberside,2201 990 0003,24Hr,21,180
T0,25JAN,9:00a,Humberside,2201 990 0003,24Hr,10,90
T0,25JAN,3:40p,West Aedale,0022 760 3303,24Hr,6,50
T0,28JAN,1:00p,Wednesfield,2201 990 0003,24Hr,12,110
T0,29JAN,5:00p,Oxley,2201 990 0003,24Hr,8,70
T0,01FEB,9:00a,Humberside,2201 990 0003,24Hr,21,180
T0,05FEB,3:40p,West Aedale,0022 760 3303,24Hr,16,140
T0,09FEB,9:00a,Pendeford,2201 990 0003,24Hr,13,110
T0,10FEB,11:00a,Humberside,2201 990 0003,24Hr,24,210
T0,15FEB,7:05p,Humberside,2201 990 0003,24Hr,32,280
T0,20FEB,2:00p,Fallings Park,220 1990 0003,24Hr,17,150
T1,27JAN,10:13a,Frankfurt,+49 621 41 12 15,24Hr,23,320
T1,03FEB,1:40p,Madrid,+34 515 14 13 12,24Hr,6,99
T1,12FEB,11:04a,Paris,+33 121 31 41 51,24Hr,10,150
T1,27JAN,10:13a,Frankfurt,+49 621 41 12 15,24Hr,23,320
T1,03FEB,1:40p,Madrid,+34 515 14 13 12,24Hr,6,99
T1,12FEB,11:04a,Paris,+33 121 31 41 51,24Hr,10,150
H0,Helen,Helen E Tavener,23 Teasel Road,Fordhouses,Wolverhampton,West Midlands,ST10 8QA
T0,01FEB,9:00a,Humberside,2201 990 0003,24Hr,21,180
T0,25JAN,9:00a,Humberside,2201 990 0003,24Hr,10,90
T0,25JAN,3:40p,West Aedale,0022 760 3303,24Hr,6,50
T0,28JAN,1:00p,Wednesfield,2201 990 0003,24Hr,12,110
T0,29JAN,5:00p,Oxley,2201 990 0003,24Hr,8,70
T0,01FEB,9:00a,Humberside,2201 990 0003,24Hr,21,180
T0,05FEB,3:40p,West Aedale,0022 760 3303,24Hr,16,140
T0,09FEB,9:00a,Pendeford,2201 990 0003,24Hr,13,110
T0,10FEB,11:00a,Humberside,2201 990 0003,24Hr,24,210
---
```

This data file has:

- No Field Descriptor fields. It is recommended that you ask the creator of the test data file to add the field descriptor records as they will aid you in the design.
- No Header line record.

- A single SOF record with the prefix H0. H0 contains name and address information. H0 is also the Root Prefix. Every time the H0 prefix is processed, VI Design Express will interpret that as the start of a new customer record set and print that next customer record set data on the front side of a new sheet.
- Two types of MOF or transactional prefix records.
  - T0 contains Localcall detail.
  - T1 contains the Internationalcall detail.

### **Designing a Prefixed Delimited Transactional application using Presorted Data**

The following section will show how to create a presorted prefix delimited transactional application. The document shown below has a simplified layout for a telephone bill to demonstrate the transactional design elements. It is missing elements such as the payment slip, and graphic elements; these can be added using standard InDesign capabilities.

Below is the first page from a customer record set. The page contains SOF data from the H0 prefix, such as the customer name and address information, and a Page X of Y, showing this bill has three pages. For this customer, the Local Call transactions, T0 SOF records exceed the space allocated on the page for transactions (MOF) records.



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**Local calls**

01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
25JAN	9:00a	Humberside	2201 990 0003	24Hr	10	90
25JAN	3:40p	West Aedale	0022 760 3303	24Hr	6	50
28JAN	1:00p	Wednesfield	2201 990 0003	24Hr	12	110
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
25JAN	3:40p	West Aedale	0022 760 3303	24Hr	6	50

The design for this document does not include a Transactional Continuation page, so the transactions overflowing from page 1 will start to print on page 2, which will be a duplication of the last page containing MOF data, in this case page 1.

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**Local calls (cont.)**

28JAN	1:00p	Wednesfield	2201 990 0003	24Hr	12	110
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
25JAN	9:00a	Humberside	2201 990 0003	24Hr	10	90
25JAN	3:40p	West Aedale	0022 760 3303	24Hr	6	50
28JAN	1:00p	Wednesfield	2201 990 0003	24Hr	12	110
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
28JAN	1:00p	Wednesfield	2201 990 0003	24Hr	12	110
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
25JAN	3:40p	West Aedale	0022 760 3303	24Hr	6	50
28JAN	1:00p	Wednesfield	2201 990 0003	24Hr	12	110
29JAN	5:00p	Oxley	2201 990 0003	24Hr	8	70
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
05FEB	3:40p	West Aedale	0022 760 3303	24Hr	16	140
09FEB	9:00a	Pendeford	2201 990 0003	24Hr	13	110

The local call details continue to print on page 2. The text (cont.) has been added to the label Local Calls, to indicate that this is a continuation of the local calls. The local calls exceed this page also, so this page is duplicated again as page 3 in the document set.

The local call details continue to print on page 2. The text (cont.) has been added to the label Local Calls, to

indicate that this is a continuation of the local calls. The local calls exceed this page also, so this page is duplicated again as page 3 in the document set.

There is space added between the local calls and international calls. The label for International calls is added as well as the T1 transaction group.

Helen E Tavener 23 Teasel Road Fordhouses Wolverhampton West Midlands ST10 8QA						
Page 3/3						
<b>Local calls (cont.)</b>						
10FEB	11:00a	Humberside	2201 990 0003	24Hr	24	210
15FEB	7:05p	Humberside	2201 990 0003	24Hr	32	280
20FEB	2:00p	Fallings Park	220 1990 0003	24Hr	17	150
		<b>Total local calls</b>				<b>10160</b>
<b>International calls</b>						
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320
03FEB	1:40p	Madrid	+34 515 14 13 12	24Hr	6	99
12FEB	11:04a	Paris	+33 121 31 41 51	24Hr	10	150
19FEB	7:32p	Rome	+39 131 21 51 14	24Hr	16	210
21FEB	10:27p	Zurich	+41 131 21 71 18	24Hr	12	180
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320
03FEB	1:40p	Madrid	+34 515 14 13 12	24Hr	6	99
12FEB	11:04a	Paris	+33 121 31 41 51	24Hr	10	150
19FEB	7:32p	Rome	+39 131 21 51 14	24Hr	16	210
21FEB	10:27p	Zurich	+41 131 21 71 18	24Hr	12	180
		<b>Total international calls</b>				<b>1918</b>
		<b>Total</b>				<b>12078</b>

Page 3 has enough room for all the “T1” transactions, so a total for international calls is added and below that a grand total for the telephone bill is added.

To create this application using the data file shown above follow the steps below.



Note: All files referenced here are also available at [www.xerox.com](http://www.xerox.com), refer to **Sample Test Files** at the beginning of this chapter.

**Open InDesign and create a new page**



The design decision has been made not to create a transaction continuation page, so only one page is required to create this application.

If transactions overflow the page, the page will be duplicated, as needed, until all transactions for that customer record set have been processed. A new customer record set will initiate a new front page.

### Import the Data file

When importing the prefixed delimited transactional data file, check the “Data file contains prefixed multiple-occurrence fields” check box (highlighted in yellow). This indicates to VI Design Express that the data file be treated as a Transactional data file.

**Data File Properties**

Data File Encoding: Western European (Windows-1252) OK Cancel

First Line of the Data File: H0,Kerry,Kerry L Walton,36 Beech Road,Bushbury,Wolverhampton,West Midlands,ST10 9YF

Data Field Delimiter:

☐ None

☐ Tab

☐ Space

☒ Other ,

Decimal Delimiter: Period (.)

☐ Strip leading and trailing quotes

☒ Strip leading and trailing spaces for field data

☒ Data file contains prefixed multiple-occurrence fields

Check this checkbox only if your data file contains transactional data, i.e. multiple values within a single record field. Please refer to VDE user documentation for more details.

☐ Data file contains header line

Root Prefix: H0

First Multi-occurrence Prefix: T0

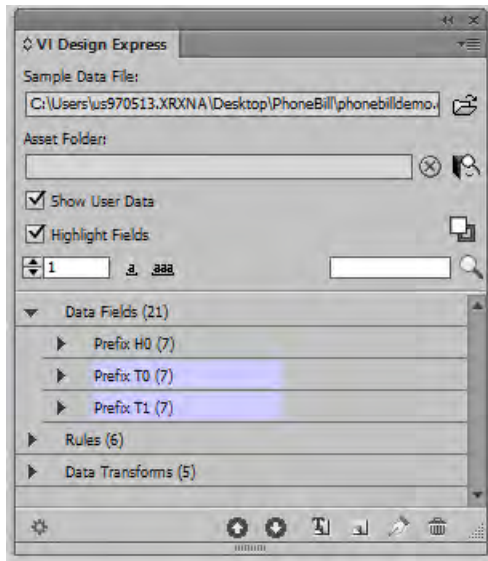
This data file does not contain a “Header Line”. So the “Data file contains header line” (also highlighted in yellow) MUST NOT be checked. If it is, uncheck this option. If your data file does have a header line, then check this option. If unsure, ask your data base administrator.

The Root Prefix has been identified as the prefix H0.

The First Multi-occurrence Prefix should be set to T0 (if not already shown as T0).

If you have quoted fields in the data, check the **Strip leading and trailing quotes** option. Leading and trailing quotes are often inserted around a field in the data to protect fields that have the delimiter character in the field content. It stops that character from being interpreted as a delimiter character. If this is used, you must select the option to strip the leading and trailing quotes.

Review the other available options, when all required options are selected, select **OK** to import the data file into VI Design Express.

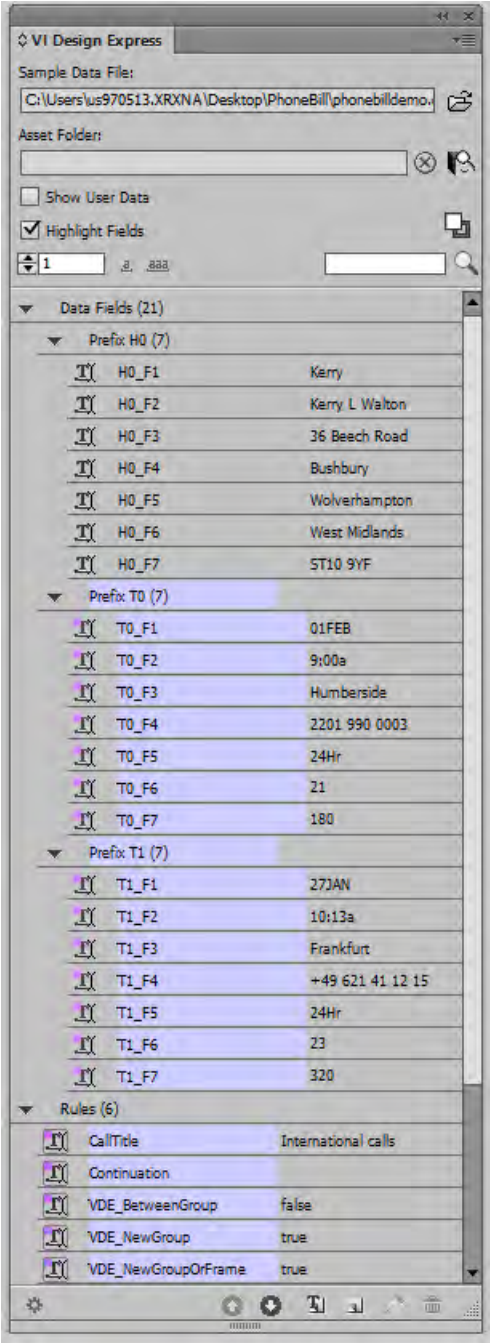


The VDE Data Panel will look similar to the image above.

For this data file there are three Prefixes H0, T1 and T2.

- H0 is the SOF record containing customer name and address information.
- T0 is the first MOF record containing Local call detail transactions.
- T1 is another MOF record. This prefix contains the International call detail transactions.

When each prefix is expanded, you can see the field contents and field values for each prefix.



The next step is to add the text frames necessary to contain the SOF Data, which contains the name and address data.

### Name and Address Block

Draw a text frame approximately 3 1/2 inches by 1 3/4 inches in the top left part of the page. Set the font attributes as required (for example, Arial 11pt).

Select and place the fields for the name and address box.

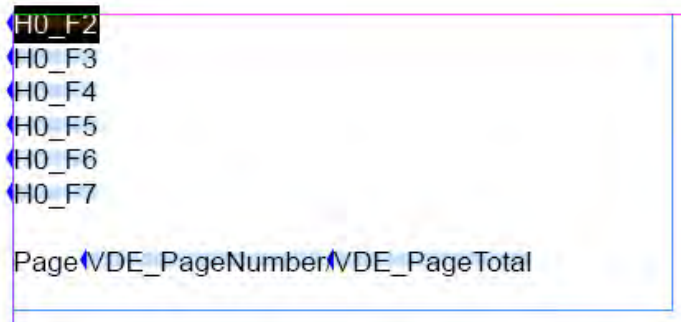
You will need to select the following fields from the “H0” prefix.

- H0\_F2
- H0\_F3
- H0\_F4
- H0\_F5
- H0\_F6
- H0\_F7

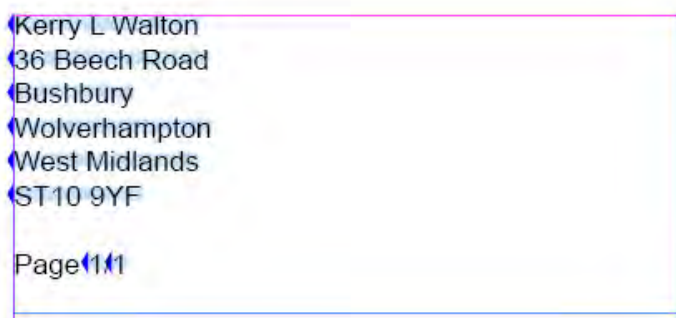
### Page Number Text

- To place the “Page 1 of X” type information type the word **Page** at the bottom of the text frame.
- Insert the built-in variable **VDE\_PageNumber** after “Page”.
- Add a “/” character, followed by a space and the built-in variable **VDE\_PageTotal**.

The text frame should look similar to the image below.



When the “Show User Data” option is checked in the VDE data panel, it will look similar to the image below, depending upon the customer record set you are viewing:



### Placing T0 and T1 Transactions

The next step is to place the MOF fields from the data file. The data has two MOF records, the T0 MOF record, and the T1 MOF record. MOF records are placed on the page by drawing a text frame and then inserting the transactions into a table VI Design Express builds when **Create Transactional Data Table** is selected.


Draw a text frame for the transactions. It should start approximately ½ inch below the Name and Address text frame, and reach nearly to the bottom of the page. It should be about 7 ½ inches wide enough to fit the transactions you will be adding.

1. With the Text cursor flashing in the text frame, right-click on the first Multiple Occurrence Transaction in the telephone bill data this is the T0 prefix record.
2. Select **Create Transactional Data Table**.

This will automatically create a table in the text frame. The table will have a column for each field in each prefix. The table will insert as many rows as there are prefixes. In the case of the telephone bill application it will insert two rows, one for the T0 and one for the T1 MOF records.

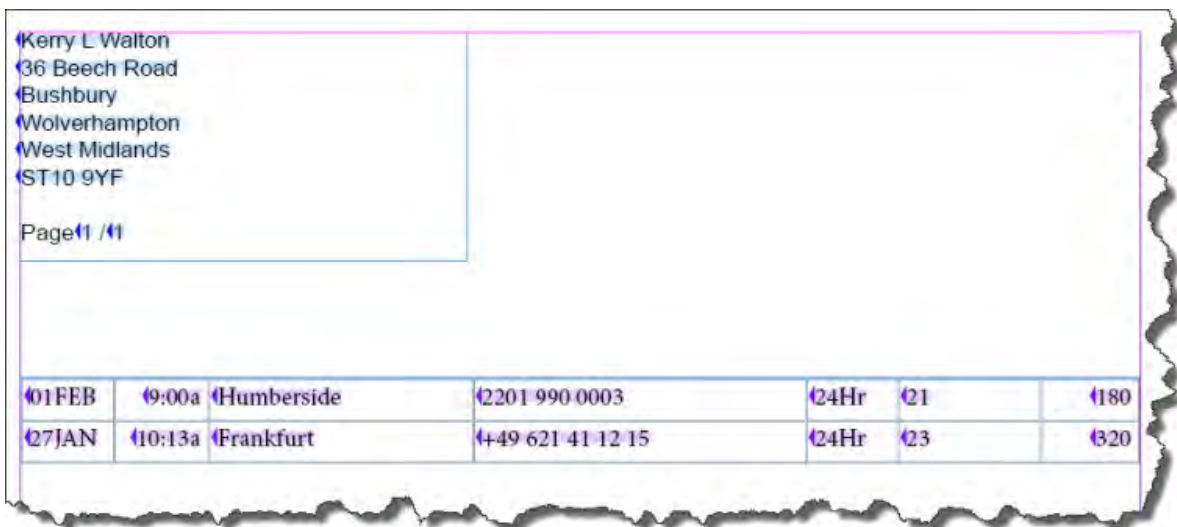
- You should select the VDE Panel option **Show User Data**, to view the values in the transactional table.

At this point your application will look something like this:



Kerry L Walton 36 Beech Road Bushbury Wolverhampton West Midlands ST10 9YF Page 1 / 1						
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320

You could make some adjustments so the transactions are more readable by adjusting the width of the cells, and using alignment options for columns, to make your table look more like this:



Kerry L Walton 36 Beech Road Bushbury Wolverhampton West Midlands ST10 9YF Page 1 / 1						
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320

- At this point, save your application.

## Transaction Title

Because the telephone data is made up of presorted prefix types such as T0 for Local calls and T1 for International calls you may want to add a title for each group of transactions.

A text rule will need to be created to generate the correct text label based on the value of the prefix being tested. The value should be Local Calls when processing T0 MOF records and change to International Calls when processing T1 MOF records.

Because there are only two MOF options, we can build a simple IF rule. If there were more than two prefix types you would need to add additional tests for each prefix type.

- The rule name is *CallTitle*.
- The Rule Type should be set to **Text**.
- The Description field contains a description of the rule, such as *Call header*.
- Change the default value to **Local Calls**. This is the text that will print if no conditions are evaluated to be true.
- The Value should be set to **International Calls** by typing that into the entry for Value =. This is the value that will be used when the condition directly underneath is evaluated to be true.
- The condition uses the built-in variable VPPprefixName. The value of VPPPrefixName is the current Prefix of the MOF record being processed.
- Choose **Is equal to the value** and enter **T1**. (You need to type **T1** into the field). This is testing if VPPprefixname is equal to the value T1.

If this rule is true, the value International Calls will be the result of this rule; if evaluated to be false, the result will be Local Calls. The rule should look similar to this:



Note: The Multi-occurrence Prefix None option is set to as no Prefix fields are used in this rule.

Another rule needs to be generated to add the text (cont.) to the text generated by the rule above, if the current transaction prefix group T0 or T1 overflows to the next page. This rule will only add the text (cont.) when a T0 or T1 transaction group overflows to the next page. Another rule needs to be generated to add the text (cont.) to the text generated by the rule above, if the current transaction prefix group T0 or T1 overflows to the next page. This rule will only add the text (cont.) when a T0 or T1 transaction group overflows to the next page.

The rule looks like this:



- The rule name is Continuation.
- The Rule Type is Text.
- Because we will be testing MOF Prefixes, the Multi-occurrence Prefix is set to All to test all MOF prefixes, in this case T0 and T1.
- The Description field contains a description of the rule.
- The Default value field is empty, as if this is not an overflow condition we do not want to print anything.
- The Value is set to **(cont.)** by typing that text into the field. This is the value that will be used when the condition directly underneath is evaluated to be true.
- The condition is using the built-in rule VDE\_NewGroup. This rule is true when a MOF prefix is different from the previous one, and false if it is the same. This is exactly the condition needed to print (cont.), when it is not a new group because there is no change in the prefix. So, the condition is set to VDE\_NewGroup is equal to false. This condition is true when the current MOF prefix does not belong to a new group.

### Using rules to add a Transaction Label

#### Add Two Rows for Separation and Title

1. Highlight the top cell of your table.

2. Insert two rows above the current row.

These two new rows should contain one cell only, so highlight the two rows entirely, one after the other, and use the Merge Cell option to merge all of the cells in each row into one.

#### **Add the Rule *CallTitle* into the Second Row**

To do this:

1. Place the cursor in the second row.
2. Double-click the rule **CallTitle**.
3. Change the Row Height options as necessary and select a larger font and bold attributes.
4. Insert the rule **Continuation** after the CallTitle rule using the same process described above, add a space character between the two rules.
5. Change font attributes as needed. Typically, a smaller font than the CallTitle text.

#### **Add a spacer Row that will show between T0 and T1**

A spacer row can be used to separate transactional prefixes, for example, when T0 changes to T1 you may want to add a space.

1. Place the cursor in the first row and right-click.
2. Select the **VI Design Express Row Options**. This provides control over row visibility.
3. Check the option **Show this row only when rule is 'true'**. Select the built-in rule **VDE\_BetweenGroup**.

4. Select **OK**.

This VDE Row Options rule makes this row visible when the rule VDE\_BetweenGroup is evaluated to be true. It will be evaluated as true when a MOF prefix is different from the previous one, except at the beginning of a new frame.

The second row contains the CallTitle label, either Local Calls or International Calls. These labels should only appear once per group of transactions, or at the start of a new page caused by an overflow condition. There is a VDE Table Row option for that.

5. Click on the second row to place the cursor in that row. Right-click and select **VI Design Express Row Options**.
6. Check the option **Show this row only when rule is true**.
7. Select the built-in rule **VDE\_NewGroupOrFrame**.
8. Click **OK**.
9. Save the application.

### Data Transforms to sum call totals and Grand Total

This application needs to show totals for Local Calls or T0 transactions and International Calls or T1 transactions. It also needs a grand total for the bill. The data for these totals are not part of the SOF or MOF data, however, they can be obtained by summation of the T0\_F7 field in the T0 records, the T1\_F7 field in the T1 records and by combination of both.

To create these totals you need to create three Data Transforms.

- Data Transform to sum Local calls in a customer record set
- Data Transform to sum International calls in a customer record set
- Data Transform to sum All calls in a customer record set

### Data Transform to sum Local calls in a customer record set

Create a new Data Transform. Name it **TotalLocal**.

- The Data Transform type is set to **Text**.
- The Multi-occurrence prefix used to sum local calls is T0.
- Type in a description for the data transform.
- The Start String should be set to the field T0\_F7.
- The Data Transform option to use is Summation.
- Check the **Reset on true** option and select the rule **VDE\_NewGroup** to reset at the beginning of each transaction group.

The Data Transform should look similar to the one shown below.

### Data Transform to sum International calls in a customer record set

Create a new Data Transform. Name it **TotalInternational**. This is similar to the Data Transform you just created, but will use the field T1\_F7 for the summation.

- The Data Transform type is set to Text.
- The Multi-occurrence prefix used to sum international calls is T1.
- Type in a description for the data transform.
- The Start String should be set to use the field T1\_F7.
- The Data Transform option to use is Summation.

- Check the **Reset on true** option and select the rule **VDE\_NewGroup**.

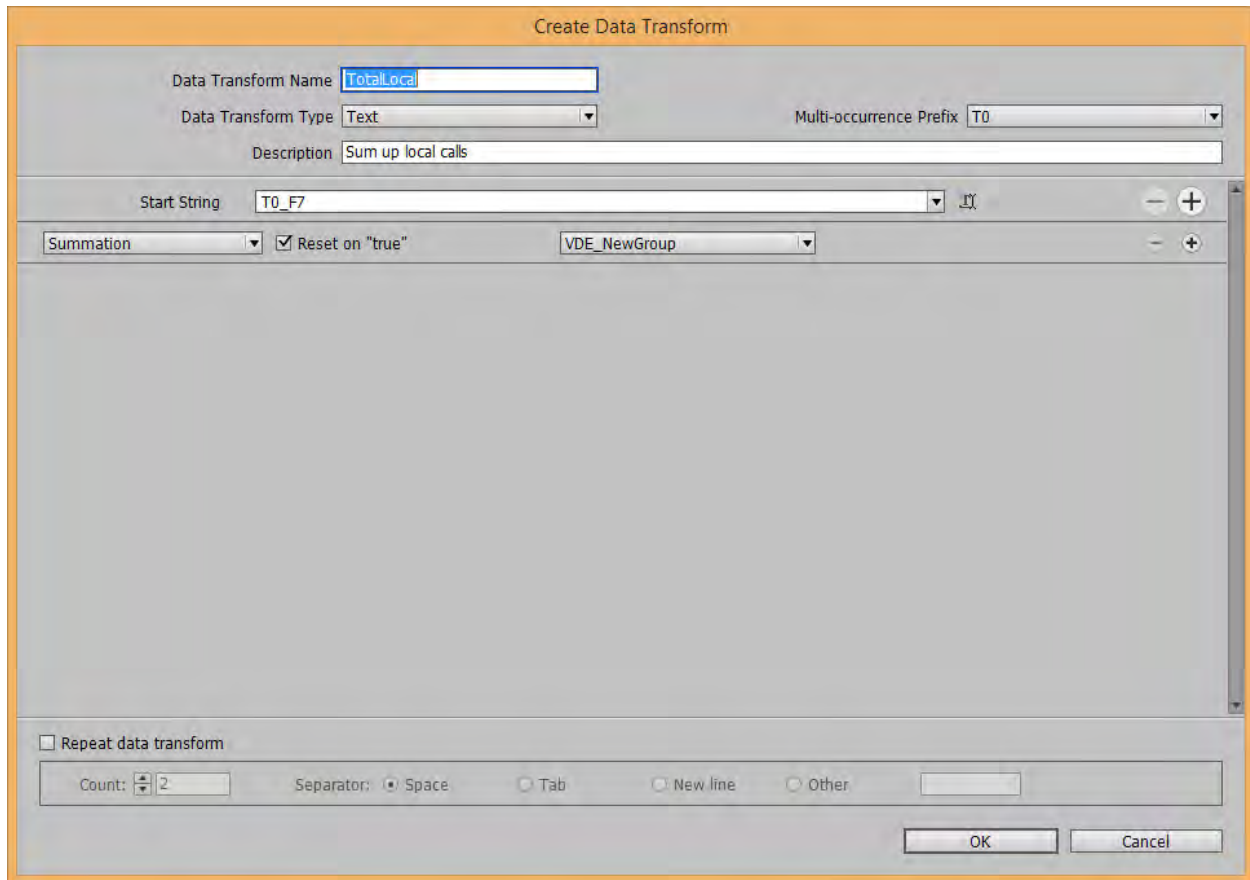
The screenshot shows the 'Create Data Transform' dialog box with the following settings:

- Data Transform Name:** TotalInternational
- Data Transform Type:** Text
- Multi-occurrence Prefix:** T1
- Description:** Sum up international calls
- Start String:** T1\_F7
- Summation:** Selected (dropdown)
- Reset on "true":** Checked
- NewGroup:** Selected (dropdown)
- Repeat data transform:** Unchecked
- Count:** 2
- Separator:** Space (radio button selected)
- Other options:** Tab, New line, Other (radio buttons)
- Buttons:** OK, Cancel

#### Data Transform to sum All calls in a customer record set

Create a new Data Transform. Name it **GrandTotal**. This is similar to the Data Transform you just created, but will use a unique field identifier **\*\_F7** for the summation. Meaning all F7 MOF fields for the customer record set. This becomes available because the Multi-occurrence Prefix option is set to All.

- The Data Transform type is set to **Text**, Set the Multi-occurrence prefix to **All**.
- Type in a description for the data transform. The Start String should be set to **\*\_F7**, and the Data Transform option to use is **Summation**.
- Check the **Reset on true** option, and select the rule **VDE\_NewRecordSet** to reset the summation at the beginning of each new customer record set.



### Control Local and International Totals visibility

You only want to show the total for either local calls or international calls at the end of each group. To do this:

- Insert two rows below the last row the row containing T1 details.
- Move to the third cell of the first of the two rows you just inserted and type the label **Total Local Calls**. Set font attributes as desired.
- Move to the last cell in this row and insert the **TotalLocal** data transform by double clicking on that data transform in the VDE Data panel.
- Do the same for the next row. Enter the text **Total International Calls** in the third cell. Then enter the **Total International** data transform in the last cell in that row.

### Control Row Visibility for Totals

Some VDE Row options need to be set to control when these local and international total rows are visible.

- For the first of the two rows inserted above, place the cursor in the row.
- Right-click and select the **VDE Table Row** options.

- Set the table row options as shown below:

VI Design Express Row Options

☐ Never show this row

☒ Show this row only for prefix  
T0

☐ Show this row only when rule is 'true'  
CallTitle

☐ Show this row only when previous prefix is different

☒ Show this row only when next prefix is different

☐ Show this row only when space left in frame is greater than  
0 in

☐ Omit this row when all variable data objects are blank

☐ Use variable row height

OK Cancel

- Note there are two Table Row options to set:
  - The first will show this row only when the prefix is T0. T0 contains Local Call details.
  - The second Row Option is Show this row only when next prefix is different. This means that the Total Local Calls row will only show when the prefix is T0, and only when the next prefix to be processed is a different prefix. Which is when you would expect to provide a total for T0 prefix.

You need to move to the next row, the International call total, and repeat the same VDE Table Row options, making sure the Show this row only for prefix is set to T1, the international transactions.

## Footers

This application will use the Table Footer option for the Grand Total. The footer row only appears at the very end of a table.

- Highlight the last row in the table and select the **Table Cell Options**.
- Select **Headers and Footers**.
- Select the options to add a single Footer row.
- Enter the text **Total** in the third cell of this row.
- Insert the **GrandTotal** data transform into the last cell of this row.
- Adjust Font attributes as needed.
- Save your application

### Adjusting Row Attributes

It may be necessary to adjust some row attributes. The InDesign adjacent rows inherit their common border attributes. This is not a problem when all rows are displayed, but because VDE Row Options may allow a row to show or not, some row attributes that get inherited may not be wanted.

The best way to see this is to switch into InDesign Preview Mode. Do this by selecting **View > Screen Mode > Preview**.

In order to make the local and international transactions appear as separate tables, it is necessary to remove the borders on the spacer, and call title rows. Follow these steps to do this:

1. Highlight the top row. This is actually one row above the top visible row.

International calls						
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320
		Total local calls				180
		Total international calls				320
		Total				180

2. Right-Click and select **Cell Options**.
3. Select **Stroke and Fill**.
4. Set the Weight: value to **0**.
5. Set the Type: value to **none**.
6. Select **OK**.
7. Highlight the row containing the text International Calls.
8. Right-Click and select **Cell Options**.
9. Select **Stroke and Fill**.
10. Delete the top and bottom cell stroke, to keep only the vertical strokes, the top border has been removed with the spacer row, and the bottom border is the top of the TO row, so it must be kept solid.
11. Set the Weight: value to **0**.
12. Set the Type: value to **none**.
13. Select **OK**.
14. Highlight both the T0 and T1 rows.
15. Right-Click and select **Cell Options**.
16. Select **Row and Columns**.
17. Set the Row Height: value to **At Least 0.3 inch**.
18. Select **OK**.
19. Highlight both the Total Local and Total International rows.
20. Right-Click and select **Cell Options**.



21. Select **Text**.
22. Set the Top value to adjust the space between the top of the cell and the top of the text, do the same for the Bottom value as required.
23. Select **OK**.
24. Highlight both the **Total Rows**.
25. Right-Click and select **Cell Options**.
26. Then select **Stroke and Fill**.
27. Set the Cell Fill Color option to a light a light gray or yellow color you should have created such a color in the swatches panel earlier.
28. Select **OK**

In preview mode your final document should look like this:

<p>Kerry L Walton  36 Beech Road  Bushbury  Wolverhampton  West Midlands  ST10 9YF</p> <p>Page 1/1</p>						
<b>International calls</b>						
01FEB	9:00a	Humberside	2201 990 0003	24Hr	21	180
27JAN	10:13a	Frankfurt	+49 621 41 12 15	24Hr	23	320
		<b>Total local calls</b>				<b>180</b>
		<b>Total international calls</b>				<b>320</b>
		<b>Total</b>				<b>180</b>

29. Save and Export your document. Review [Export and Printing](#) for more information.



# Using Specialty Imaging Effects

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Xerox print devices the actual imaging engine that supports five Specialty Imaging effects, plus additional extensions of these effects using *Patterned Ink*. Not all effects are supported on all devices, and not all colors or fonts will print the same across different print engines.

Specialty Imaging effects can be used to provide low-cost document security or novelty effects designed to grab the reader's attention. While the effects may be reproducible on a good copier, by combining these effects with variable data, it becomes much more difficult to change or modify any of the Specialty Imaging effects without destroying the visual appearance. In addition, some effects can be hidden, or are not obvious to the casual observer. Examples are the two layer Fluorescent or Infrared effects.

Specialty Imaging effects are especially useful in applications, such as parking passes, event tickets, ID Cards or other types of documents, that would benefit from some level of fraud protection. Xerox VIPP® Specialty Imaging can provide this added protection at a low cost, without the need to add additional hardware, toner or expensive post processing equipment.

VIPP® Specialty Imaging effects add the ability to enhance the design by including text that can only be viewed under special circumstances. These effects are achieved through the use of color, media and Xerox technology. Specialty Imaging effects can only be reproduced when printing the VIPP® application, they are not reproducible when viewing on the screen.

Specialty Imaging effects are based on technologies used to embed an alphanumeric string into a print pattern in such a way that the string is indecipherable under normal viewing conditions, but, becomes visible under special viewing conditions, or with the aid of simple tools such as a loupe, UV light or infrared camera.

Due to the unique properties of the Specialty imaging fonts and colors, not all fonts and SI colors will work equally

well across all Xerox production devices nor on all types of media. It is highly recommended that you use VDE to create a patch book of the effects you are interested in, using a combination of different font families and SI colors. Print this patch book to the target print device and review the output. This will help you select the effects and SI colors that work best for your application on the target print device.



Note: Specialty Imaging is NOT SUPPPORTED when you use:

- Non Xerox devices
- Wax devices

The VIPP® Specialty Imaging effects are:

#### Correlation Mark

Used to print text in a way that the content is not visible unless it is superimposed by a “key transparency.” A two layer Correlation Mark effect is also available where two strings can be embedded into the effect. When the key is used one way the first message is viewable. If the key is flipped or rotated the second string becomes visible. This figure shows an example of a Correlation Mark application. The first image is the view without the key transparency. The second image is the view with a key transparency overlay. Correlation Mark fonts work best with constant colors, but color gradations can also be used. The Correlation Mark Key can be created by printing the Correlation\_Font\_Key.ps file on a transparency. The Correlation\_Font\_Key.ps file can be obtained by downloading the SI\_Correlation\_Uutilities.zip file, or by contacting your local Xerox representative. Refer to [Specialty Imaging and Barcode Font download](#) for more information.



#### FluorescentMark color

Used to print text in a way that the content is virtually invisible under normal light but becomes visible under UV (black) light. A two layer Fluorescent effect is also available where a visible second string can be printed on top of the effect. When a UV light is used to illuminate the effect the visible string fades to reveal the underlying hidden text string.



Note: The media upon which the effect is printed is very important to the effect. Each media must be validated.

This figure shows a color patch under normal illumination (top) and under UV illumination (bottom). Note that no special material other than UV light is used to view the hidden text.



#### GlossMark® Text

Used to print text in a way that the content is not visible in straight-on view, but becomes visible as gloss under inclined illumination. This figure shows GlossMark Text produced on standard coated paper. The first image is in straight-on view. GlossMark Text works best with constant colors, but color gradations can also be used. VDE supplies predefined color swatches.



### Infrared color

Used to print text in a way that the content is virtually invisible under normal light but becomes visible under infrared light. A two layer Infrared effect is also available where a visible second string can be printed on top of the effect. When an IR light source is used to illuminate the effect the visible string fades to reveal the underlying hidden text string. This figure shows a color patch under normal illumination (top) and under Infrared illumination (bottom). The illustration on the bottom was captured using a web cam and displayed on a PC.



### MicroText font

Used to print point sizes normally smaller than one point. The top figure shows the quality of a MicroText font printed on standard coated paper. For comparison, in the bottom figure, the microprinting on Japanese currency is shown at identical scale. When judging quality, it is useful to compare the results to currency printing.



Note: The use of Specialty Imaging can add a level of complexity to page processing on the printer that in certain circumstances can exceed the limitations of the printer. Thus, the effects cannot be guaranteed to work in all applications. The amount of Specialty Imaging effects on a page, the size of the effect and the media can all affect the look of the printed output. It is highly recommended that you review the Specialty Imaging section of the *FreeFlow VI Compose User Guide*, and that you test the application prior to running in production mode.

## Printer support restrictions

Specialty Imaging effects are subject to the following limitations:

- GlossMark Text is not supported on any low gloss toner based products. GlossMark Text depends on the gloss in the toner for the effect. Verify the effect before going into production using a low gloss toner as, when printed, the gloss effect may not be exhibited. Review the section on Artistic Black as an alternative to GlossMark Text.
- MicroText Mark is not recommended with the DocuTech 180 HLC, DocuTech 180 HLC Publisher, DocuTech 61XX or DocuPrint family of printers.
- CorrelationMark is not applicable to the Xerox 4110/4590/4595, DocuTech180 HLC, DocuTech180 HLC Publisher, DocuTech 61XX or DocuPrint family of printers
- Venezia Mode is recommended when using FluorescentMark, Infrared Text, or GlossMark Text with the DocuColor 7000AP/8000AP/7002/8002/8080.
- GlossMark Text, FluorescentMark, and Infrared Text are not applicable to the Xerox Nuvera 100/ 120/144 EA DPS, Xerox Nuvera 288 Digital Perfecting System, 4110/4590/4595, DocuTech180 HLC, DocuTech180 HLC Publisher, DocuTech 61XX or DocuPrint family of printers.
- GlossMark Text, FluorescentMark, Infrared Text, Correlation Mark, and MicroText Mark are not applicable to the Continuous Feed family of printers.
- Many of these effects can be duplicated by a high quality copier. These effects are designed to contain variable data and efforts to change the data in the effects will most likely be noticeable.
- Not all effects, or all colors in a given effect, will work effectively on all devices. It is recommended that you generate a patch book, using the targeted device and the targeted media, to review effects and colors before going into production.
- Specialty Imaging is not supported on Wax devices. GlossMark is not supported on Inkjet devices.
- ArtisticBlack Text is not recommended with the Xerox iGen 5 Press with Matte Dry Ink and iGen 150 Press with Matte Dry Ink.
- ArtisticBlack Text, GlossMark Text, FluorescentMark, and Infrared Text are not applicable to the Xerox Brenva HD Production Inkjet Press, Xerox iPrint Production Inkjet System, Xerox Nuvera 288 EA Perfecting Production System, Xerox D136 Copier/Printer.
- Anti-aliasing is recommended when using MicroText with the Xerox Color 1000 Press, Xerox Color 70 Printer, Xerox iGen 5 Press, Xerox iGen 150 Press, Xerox Nuvera 288 EA Perfecting Production System, Xerox D136 Copier/Printer, Xerox Versant 80 Press, Xerox Versant 180 Press, Xerox Versant 3100 Press, Xerox Color C75 Press, Xerox Brenva HD Production Inkjet Press, Xerox iPrint Production Inkjet System.
- GlossMark Text is recommended to be used in 220 gsm or above.
- **Image Quality > Color Mode > Normal** with Enhanced Gloss is recommended when using GlossMark Text with the Xerox Color 70 Printer family and Xerox Versant 80 Press.

## Limitations

Specialty Imaging offers alternatives to existing offset capabilities. In this context it is important to understand that the detailed effect is different from ordinary offset printing.

Specialty Imaging jobs contain complex data, thus, the DFE will behave as with other complex documents. For example:

- A page in a MicroText font can represent 100 pages of 12pt text. Obviously, the RIP time for the page covered in a MicroText font will be different than the RIP time of a page covered in 12pt text.
- GlossMark Text is, in essence, text represented by images. A page covered in images will have a different RIP time from a page covered in 12pt text.
- High data amounts can affect DFE compression issues. Some DFEs require a minimum compression ratio for communication with the Print Engine. Specialty Imaging in some cases can push those limits. When printer limitations are approached, the effects will be visible on the printed page.
- When printer limits are approached, a higher likelihood for color drifts, etc., exists.

There are certain limitations to all Specialty Imaging features. The following list describes the most common limitations.

- Use only the supplied Specialty Imaging Color Swatch files to select Specialty Imaging Color. Do not alter these files.
- The color icon that is displayed for each Specialty Imaging Swatch in the InDesign Swatches panel is an approximation of the color only. Some Specialty Imaging swatch colors are based on color and patterns and it is not possible to display pattern information in the swatch color icon. It is recommended that you create your own patch book to verify the actual color/pattern content of any Specialty Imaging color swatch.
- VDE uses a set of special color swatches and Specialty Imaging Screen fonts to support MicroText effects, GlossMark, Correlation Mark, Infrared and Fluorescent use only the color swatches installed when the Special or Custom install option is selected. These color swatches and screen fonts provide an approximate appearance of the Specialty Imaging effect only. The screen fonts cannot be used by any other application. The screen fonts and color swatches when installed do not take a large amount of disk storage.
- Specialty Imaging printer fonts can be downloaded. Refer to [Specialty Imaging and Barcode Font download](#) for more information. Specialty Imaging fonts are supplied as a series of zip files. Select the zip file that corresponds to the Specialty Imaging fonts you require.
- MicroText fonts contain only these characters (lower case characters are mapped to upper case characters for printing purposes):  
A through Z, 0 through 9, ! @ # \$ % & \* ( ) - \_ = + [ ] ; : ' " , . ? / € , and ¥.
- Cyrillic characters can be used with the normal weight (not bold) MicroText fonts.
- Specialty Imaging can affect printer performance. Specialty Imaging requires more processing power than standard text printing; because of this, Xerox recommends testing the application and adjusting the use of Specialty Imaging based on the device and performance needs.
- Media Selection will affect the Specialty Imaging effects. FluorescentMark works best on a high brilliance media, while GlossMark and ArtisticBlack text works best on a coated or high gloss media above 220 gsm. Xerox paper, such as the Digital Color Elite family of products, can be used for all Specialty Imaging effects. MicroText, Infrared, and Correlation Mark work on all media.



- Set the printer tray and queue to the correct weight of the media used. Failure to do so can affect the quality of the Specialty Imaging effects.
- The condition of the printer and the color setting can affect the appearance and quality of the effects. It is critical to calibrate the printer and to ensure that the queue settings are defined as described in [Set the printer to use Specialty Imaging](#). Failure to do so will result in poor or no Specialty Imaging effects.
- Not all Specialty Imaging effects will print in a satisfactory state on all devices. Due to the unique characteristics of these effects and the individual device settings, configurations, and media selections, test and possibly use alternative supported colors, media, fonts, and font sizes to achieve the desired effect.
- 1st generation EA Toners do not support GlossMark effects.
- Use of UV Coater has not been validated.



Note: Limitations specific to individual specialty imaging effects are included in the sections that describe the effect. Refer to the relevant section for this important information.

## Important Printer Setup Information

To prepare the controller follow the instructions in these sections:

- [Purchase and install Specialty Imaging fonts](#)
- [Set the printer to use Specialty Imaging](#)

### PURCHASE AND INSTALL SPECIALTY IMAGING FONTS

Specialty Imaging fonts can be downloaded. Refer to [Specialty Imaging and Barcode Font download](#) for more information about downloads.

MicroText fonts

Are for use with text applications using MicroText. A typical micro font application may be a financial document where critical information such as the account number, check value, etc., may be printed in a selected area multiple times using the micro font. MicroText fonts only support solid color values, such as black, as the font color. This font set can be installed on any monochrome or color system.

Once you have obtained the Specialty Imaging fonts, use the option to Install PostScript Printer fonts provided by your printer. You may need to refer to the printer documentation. Once the Specialty Imaging fonts have been installed, you need to restart the printer to make those fonts available to the system.

### SET THE PRINTER TO USE SPECIALTY IMAGING

The following sections provide information about color management settings on the FreeFlow Print Server. For settings on the EFI controllers, refer to the documentation supplied with the device, or contact the vendor's support site.

## Specialty Imaging Effects and Fraud Protection

It is not recommended to use Xerox Specialty Imaging as the sole protector against fraud. Any technology intended to protect documents can be broken by a skilled counterfeiter. Any secure application requires the careful consideration of several protection elements and an assessment of the skill and effort required to circumvent the protection.

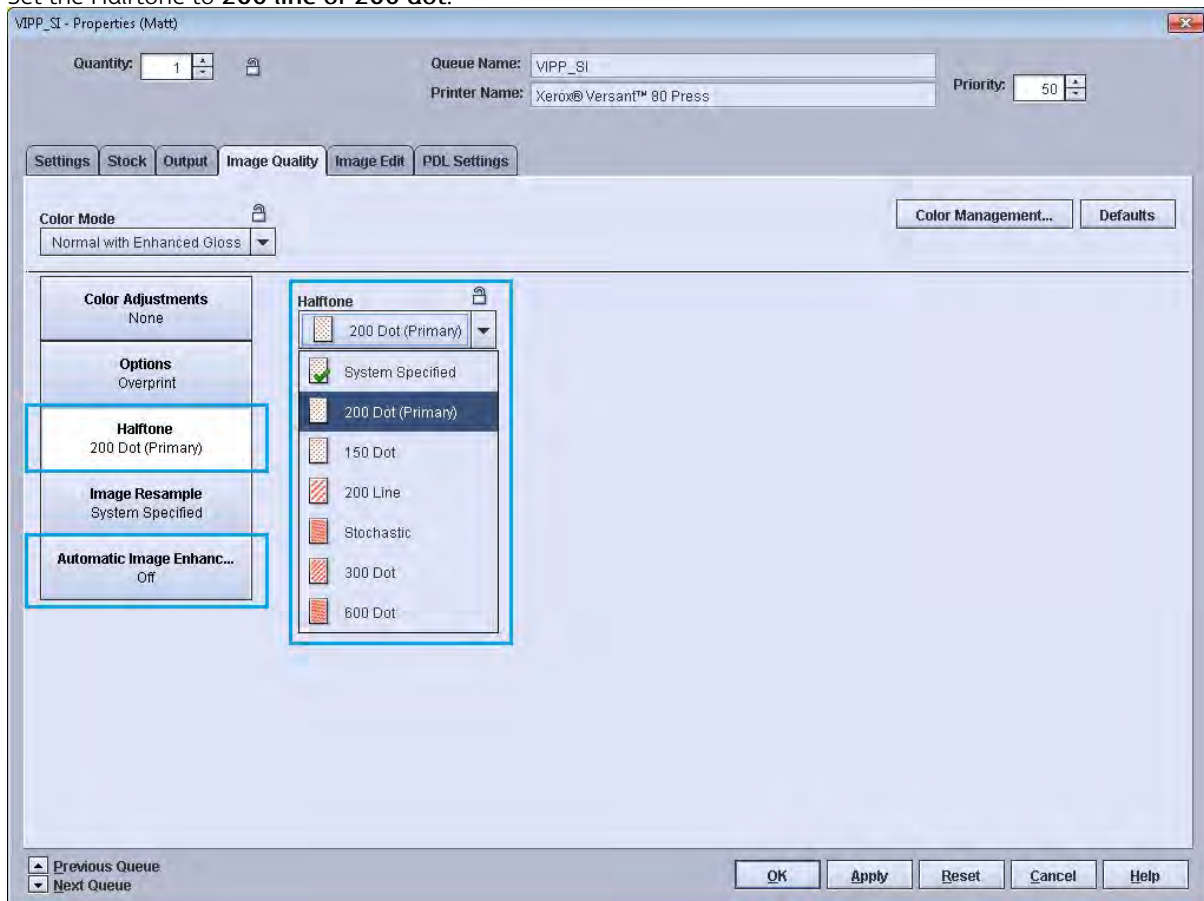
## Heavy Usage of Specialty Imaging Effects

Due to the unique ability of the Xerox Specialty Imaging effects, heavy use can strain the ability of the printer to render the page. When this happens, color shifts and other anomalies can occur. The correct action is to reduce the size or complexity of the effect along the scan lines on the device. Each device can respond differently to specialty imaging effects. The colors and effectiveness of each effect can vary based on the media, colors, and fonts selected. It is recommended that you verify all specialty imaging effects on the target device before you start full production.

### FreeFlow Print Server 7.0 (and above) Settings

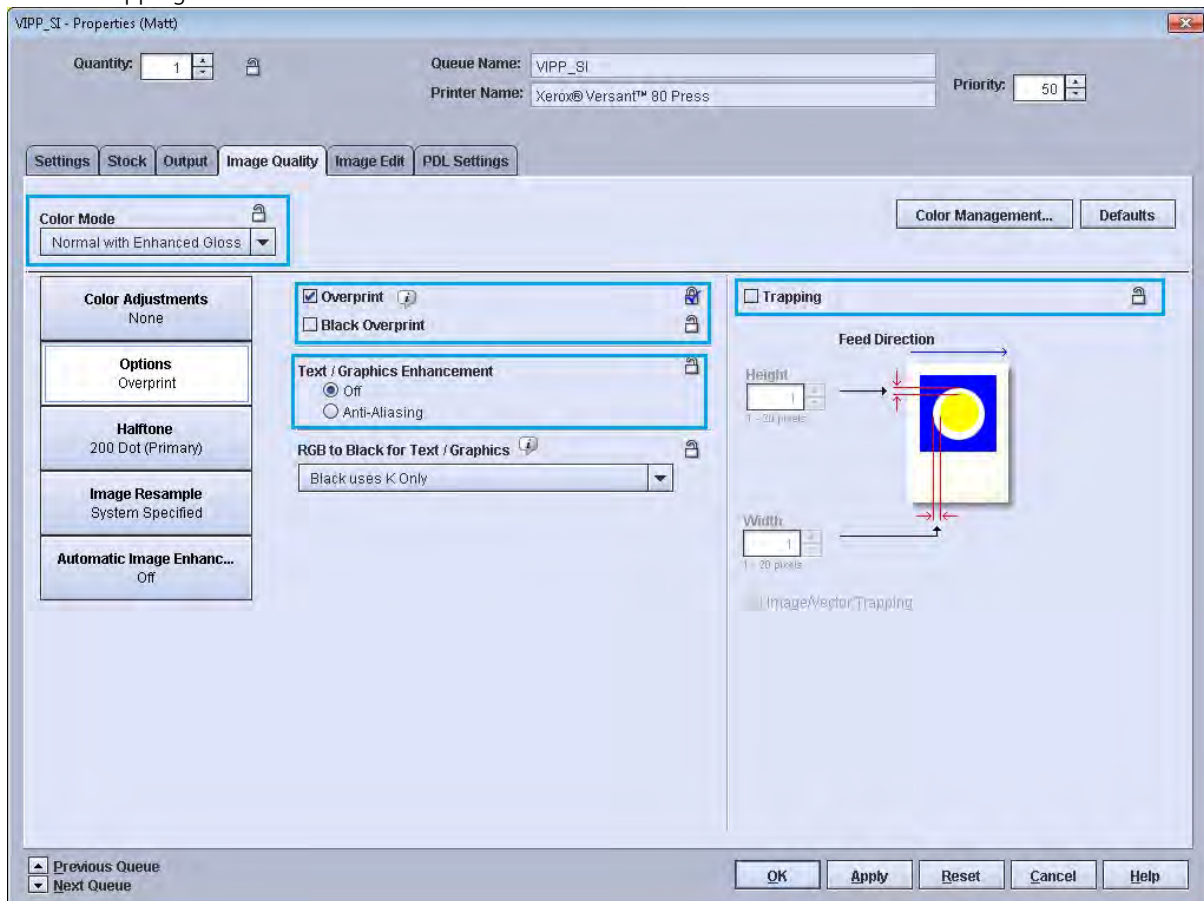
All Specialty Imaging effects, such as, MicroText, Correlation Mark, GlossMark Text, ArtisticBlack Text, Infrared, and Fluorescent require color management settings on the controller. When using one of these colors it is critical that you follow the steps outlined below to set up color management.

1. Edit the queue settings and select the **Image Quality** tab.
2. Set the Automatic Image Enhancement to **Off**.
3. Set the Halftone to **200 line or 200 dot**.



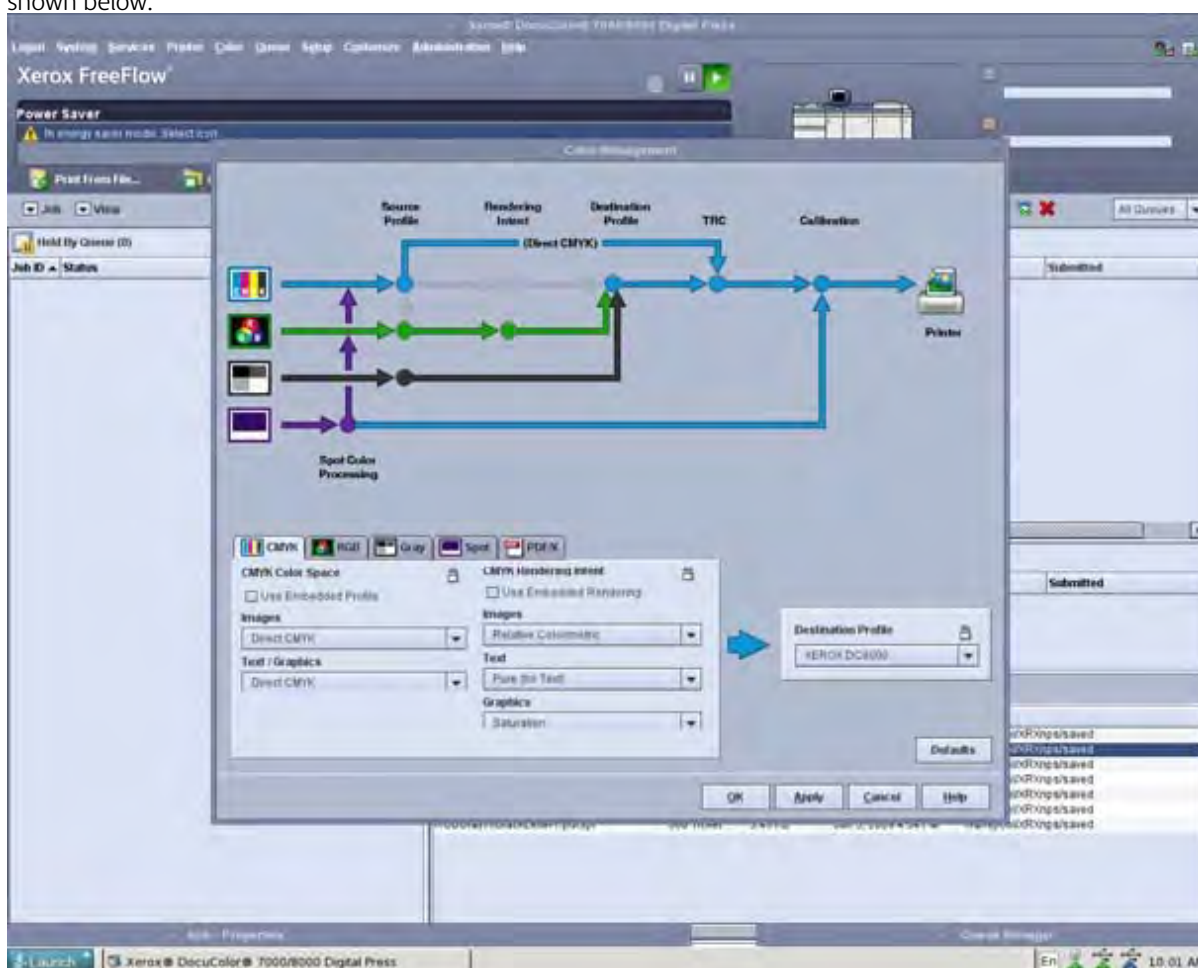
4. Set the Color Mode to **Normal with Enhanced Gloss**. (Only for ArtisticBlack and GlossMark effect)
5. Select the **Options** tab in the same menu, check the **PostScript Overprint = On (Override Lock = On)** and **Black Overprint = Off** Option as shown below.
6. Set the Anti-Aliasing to **Off**. (With the exception of On for MicroText effect)

7. Set the Trapping to **Off**.



8. Select the **Color Management** option to set the CMYK Rendering Intent setting.

9. When using Specialty Imaging Swatch colors use “**Direct CMYK**” for color management, set this option as shown below.



## Installing Specialty Imaging support for VDE

During the installation of VDE, Custom installation is selected to install all or selected Specialty Imaging components required for VDE. If the Specialty Imaging options were not selected during the initial install, the installation program can be rerun at any time and the Special or Custom install option can then be selected to install the Specialty Imaging support. Refer to [Installing VI Design Express](#) for more information.

Specialty Imaging support consists of Specialty Imaging screen fonts and a custom color swatch containing pre-defined Specialty Imaging colors.

### USING A SPECIALTY IMAGING COLOR SWATCH

VDE Specialty Imaging colors are supplied as Swatch libraries. There are six Specialty Imaging color swatch libraries, each library containing colors for a specific Specialty Imaging or Patterned ink effect. The libraries are contained in a folder named VIDesignExpress\_Swatches located in the InDesign Fonts folder.

The six swatch libraries are:

VIPP®_ARTBLACK_Swatches.ase	contains colors for Artblack color patterns
VIPP®_Micro_Swatches.ase	contains colors for SI Micro Text
VIPP®_GL_Swatches.ase	contains colors for SI GlossMark Text
VIPP®_CR_Swatches.ase	contains colors for SI Correlation Mark Text
VIPP®_UV_Swatches.ase	contains colors for SI Fluorescent Text
VIPP®_IR_Swatches.ase	contains colors for SI Infrared Text

All of the Specialty Imaging swatch libraries, a single library, or a single color from a library can be added to the InDesign Swatches panel. It is recommended that you only copy the Specialty Imaging Swatch colors you intend to use in your application, as this will avoid populating the swatches panel with hundreds of unnecessary SI colors.

### Adding a Specialty Imaging Library to the InDesign Swatches Panel

1. Open the InDesign Swatches Panel.
2. Click the **Options** Menu.
3. Select **Load Swatches ...**
4. Browse to the location of the Specialty Imaging Swatches libraries, for example:  
`(Windows:) ./Adobe/AdobeInDesign CSX/Fonts`  
`(Mac:) ../Application/InDesign CSX/Fonts`  
(where X is the InDesign version)
5. Select the **Specialty Imaging swatch library** for the Specialty Imaging effect you are using.
6. Double Click to populate the InDesign Swatches panel with the SI colors contained in the swatch library.

### Adding an individual Specialty Imaging color to the InDesign Swatches Panel

1. Open the InDesign Swatches Panel.
2. Click the **Options** Menu.
3. Select **New Color Swatch ...**
4. When the New Color Swatch menu is displayed, select the **Color Mode** pull-down
5. Scroll to the bottom of the drop-down list.

If a Specialty Library swatch library has been selected before, it will appear in this list and can be selected, otherwise select the **Other Library...** option.

6. Browse to the location of the Specialty Imaging Swatches libraries, for example:

(Windows:) .../Adobe/AdobeInDesign CSX/Fonts

(Mac:) .../Application/InDesign CSX/Fonts

(where **X** is the InDesign version)

7. Select the **Specialty Imaging swatch library** for the Specialty Imaging effect you are using.
8. Select **Open**. This will display the colors in this library.
9. Select the **desired color** from the displayed list.
10. Click **OK** to populate the InDesign Swatches panel with the SI color selected.

### SPECIALTY IMAGING FONTS FOR VDE

When Custom install was selected during installation, options to install all or some of the Specialty Imaging screen fonts were presented. These fonts are special screen fonts designed to replicate the size of the special Imaging effect on the InDesign screen. These are screen fonts, not printer fonts, and cannot be used to print. To print order Specialty Imaging printer fonts, refer to [Purchase and install Specialty Imaging fonts](#).

During the VDE installation process, when Specialty Imaging fonts screen fonts only have been selected for installation, VDE will place them into the correct font location for InDesign. The fonts will appear in the font menu drop-down box in InDesign. These fonts may be reinstalled at any time by re-running the VDE installation process.

#### Note on legacy GlossMark and Correlation fonts

The legacy method of printing GlossMark and Correlation Mark text using a collection of dedicated fonts is deprecated. It is still available and supported for backward compatibility but for new applications it is recommended to use the new GlossMark and Correlation Mark features which offer more flexibility.

## Correlation Mark

The Correlation Mark feature refers to printing variable text strings in a way that the content is not visible unless it is superimposed by a key transparency. The key printed on a transparency needs to be supplied to all end-users that need to read the data. The Correlation Mark Key can be created by printing the SI\_VP\_Correlation\_key.nm file on a transparency. This file can be found in the xgf/demo folder.

### SINGLE LAYER CORRELATION EFFECT

To use the single layer Correlation effect:

1. Using the Swatch panel create a New VDE CR Vector Swatch with 2 colors. **Vector Pattern Design using VDE**. It is recommended to use the SI\_CR\_colornames that can be loaded to the color swatches panel. Refer to **Using a Specialty Imaging color swatch**, for a description of this process.
2. Draw a Text Box the size of the effect that will be created. For example, for the correlation effect to be ½ inch wide by 3 inches long, make sure to define the text box to be ½ inch wide by 3 inches long. This will represent the area of correlation effect that will be printed on the document.
3. Select the **text box**, then choose one of the CR Vector Swatch created in step 1 as the fill color for the text frame. The text box will be filled with a hash pattern representing the selected color.
4. Select the **text tool**.
5. Select any **OTF** or **TTF font** available to InDesign, do NOT use a Specialty Imaging font. DFont formats are not supported in VDE. Set the font size.
6. Set **horizontal alignment options** using the Paragraph setting under the Type menu option. To center the text in the text box vertically, select **Object > Text Frame Options** and then select Center as the vertical adjustment in the Align box.
7. Select **Paper** as the text color from the swatches panel. Selecting any other color will result in this effect failing at the print device. Make sure that Paper is only applied to the text and NOT to the background fill.
8. Enter the **text** using the keyboard or VDE to insert variable text objects.

### TWO LAYER CORRELATION EFFECT

To use the two layer Correlation effect:

1. Using the Swatch panel create a New VDE CR Vector Swatch with 3 colors. It is recommended to use the SI\_CR\_colornames that can be loaded to the color swatches panel
2. Create the **first Correlation Mark layer** using the process described above but select a 2 layers CR Vector Swatch. Note the exact X, Y coordinates displayed for the layer 1 text box.
3. Create the second layer text box exactly on top of the first one. Do not fill it with any color. Select **Paper** as text color and insert the text string for the second layer.
4. Use InDesign to Group the two text frame objects.



## Correlation Mark font (deprecated)

**Correlation mark fonts are deprecated but still available for backward compatibility.**

Correlation Mark printer fonts can be downloaded. Refer to [Specialty Imaging and Barcode Font download](#) for more information. These fonts can be used with a Xerox print devices with an FFPS or EFI DFE. The Correlation Mark font feature refers to printing variable text strings in a way that the content is not visible unless it is superimposed by a key transparency. The key printed on a transparency needs to be supplied to all end-users that need to read the data. The Correlation Mark Key can be created by printing the Correlation\_Font\_Key.ps file on a transparency. The Correlation\_Font\_Key.ps file can be obtained by downloading the SI\_Correlation\_Uilities.zip file or by contacting your local Xerox representative. Refer to [Specialty Imaging and Barcode Font download](#) for more information.

Correlation Mark screen fonts can be installed during the VDE Installation. The special font names, listed in the font drop-down list, are formatted in one of these two ways:

SI_fontname-CR	for the single layer effect
SI_fontname-CR-L2	for the second layer effect

There are six fontname Font families to select from; these are listed in the Font drop-down list. In addition all have four font styles such as Book or normal, Italic, Bold and BoldItalic, with the exception of SI\_NeueSmall-CR and NeueSmall-CR-L2 which is only available in Book or normal. The screen fonts, along with the special color keys listed in the color library which are prefixed with SI\_CR\_, only approximate the size and color of the text strings printed. Do not alter the color names or font names as VIPP® uses these as special keys during the print operation.

Correlation Mark is available as a single layer or two layer effect. It is created by using a special Correlation Mark font and Correlation Mark color. The single layer prints a single string and will become visible when the Correlation Mark key transparency is placed over the effect.

The two layer effect uses two text strings, each printed at the same X,Y coordinates. Each layer has a unique font and color, as listed in this table:

LAYER	FONT TO USE:	COLOR TO USE:
1	SI fontname-CR	SI CR colorname (1)
2	SI fontname-CR-L2	SI CR colorname (2)

In a two layer application, one string is visible when the transparency key is used one way. When the key is flipped over or rotated 90 degrees, the second string becomes visible.

The clarity of the Correlation Mark font depends on many factors used for the application. As an example, Xerox Digital Color Elite Cover or Paper stocks provide good results. It is important to set the paper weight correctly at the device to optimize the effects. In particular, media used for GlossMark effect should be above 220 gsm weight. As with all Specialty Imaging applications, test the application to ensure it meets the design and performance requirements.

A Correlation Mark effect can be printed anywhere on the document (VIPP® will automatically create a white background under the effect. This white background will not be visible to the end user. The only time that this is not taken care of automatically, is when using a Correlation Mark font with the CR-L2 syntax in the font name. CR-L2 fonts are considered to be Layer Two Correlation Mark fonts, which are normally used for the top layer in the two layer Correlation Mark special imaging effect; therefore VIPP® will not draw a white box under CR-L2 fonts as the bottom Correlation Mark layer must interact with the top CR-L2 layer. Using the CR-L2 Correlation Mark font in a single layer effect is legal, but not recommended. To do this, select an area of white on the document, or draw a

white box below the effect. Printing a string with a CR-L2 font over a color area in the document will produce unpredictable results.

Because of the interaction between the layers in a two layer Correlation Mark effect, it is important that the CR font is used for the bottom layer and the CR-L2 font for the top layer. Failure to follow this order will result in only the top layer effect being visible. In summary:

- When creating a Single Layer effect any CR font can be used.
- When creating a Two Layer effect, select any CR font as the bottom layer and any CR-L2 font for the top layer.

### SINGLE LAYER CORRELATION MARK EFFECT USING CORRELATION FONTS (DEPRECATED)

To use the single layer Correlation Mark effect using correlation fonts (deprecated):

1. The Correlation Mark screen fonts must be installed. Refer to [Installing Specialty Imaging support for VDE](#) for information on installing this font set into the InDesign environment.
2. The SI\_CR color swatches that will be used must be available. With the document open in InDesign, refer to [Using a Specialty Imaging color swatch](#) for information on copying selected SI\_CR colors to the Swatches Panel.

Select the **text tool** and set the **text attributes** by selecting the **Correlation Mark font** from the font drop-down list. Selecting an SI font is slightly different to normal font selection in InDesign. This is because in a normal font selection, InDesign has a single font that it scales to support many font sizes. With SI fonts, there is a single font per supported font size.

To select an SI Correlation Mark font, select **one of the available SI\_fontname-CR font families** from the Font Family list. Next select the **Font Style**. SI font styles lists the font style and font size. It is important to select the correct font style and size at this point. For the majority of the SI fonts with the exception of the SI\_NeuSmall-CR fonts the fonts are available in these point sizes: 18, 24, 30, 36, 42, 48, 54, 60, 66 and 72.

Last, for display purposes within InDesign, set the **Point Size** to the appropriate point size. This will enable a correct approximation of the SI effect in the InDesign screen.

For example, to use an SI Correlation Mark font from the font family SI\_NeuSign-CR, at a point size of 36 with a Bold Italic style, select the SI\_NeuSign-CR family from the Font list. Then select **BoldItalic-36** from the Font Style list, then set the point size to **36** in the point size list.

Do not select any other font attributes as these will be ignored by VIPP®.

3. Draw a text box at the required location on the document. The text box needs to be the same width as the effect required in the document. This is because the Correlation Mark effect appears as an area of color on the document.

For example, to add a band of Correlation Mark four inches long in the document with the text centered, the text box must be 4 inches in width and the “center” alignment must be selected from the Paragraph menu. The height of the text box is irrelevant other than it must be large enough to contain the Correlation Mark text being printed. It is important to understand that the width of the text box must be long enough to contain the longest text string placed in the text box. VDE will not shrink to fit.

4. Use InDesign to set the required text alignment option, this can be set to left, right or center alignment, no other alignment parameter is valid. Alignment options can be found in the **Type > Paragraph panel** in InDesign.

5. Set the text color by selecting one of the available **Specialty Imaging Correlation Mark colors** in the Swatches panel. Correlation Mark colors use the following naming convention: SI\_CR\_colormame. (To load these colors into the Swatches panel, see 2 above.) Failure to select one of these special CR colors will result in the Correlation Mark effect not working as desired. Only the text in the text box should be assigned the SI\_CR\_colormame, the text frame background should contain no color.
6. Enter the **text string**. The text string can be text entered using the keyboard, the insertion of a variable text object from VDE, or a combination of both. The text string must fit on a single line.

## TWO LAYER CORRELATION MARK EFFECT USING CORRELATION FONTS (DEPRECATED)

To use the two layer Correlation Mark effect using correlation fonts (deprecated):

1. Create the first Correlation Mark layer using the process described above. Note the exact X, Y coordinates displayed for the layer 1 text box. The second layer text box must be drawn using the same coordinates in order to get the two layer Correlation Mark effect. The layer two text box will exactly overlay the layer one text box.
2. Select the **second layer Correlation Mark font**. This must be a font family with the format SI\_fontname-CR-L2
3. Select the **font style and size** and set the point size in the InDesign Font Size list. For example, if the font family SI\_NeueSign-CR-L2 and the font style/size BoldItalic-36 have been selected.
4. Change the InDesign point size to 36.
5. Assign a SI\_CR color to the text and enter the second text string as above, using the same alignment parameters. Although using the same alignment parameters for both strings is not required, doing so results in a cleaner effect printed on the page.
6. Use InDesign to Group the two text frame objects.

As with all Specialty Imaging applications, test the application to validate that the effect meets the design specifications and print performance.

## CORRELATION MARK LIMITATIONS AND REQUIREMENTS

Paper Requirements	The Xerox Digital Color Elite Gloss families of paper products are recommended.
Text Content	Any arbitrary content. Best results are obtained when using a limited number of characters.

### Limitations that only apply to Correlation Fonts (deprecated)

Text Color	Any InDesign color swatch beginning with SI_CR_ and ending with a color name.
Text Size	The entered InDesign text size must match the numeric value of the selected font style. For example, when the font style is set to BoldItalic-48, the InDesign text size must be set to 48.

Font	The supported font families are L2 versions are also included: <b>SI_NeueModern-CRSI_NeueClassic-CRSI_NeueSecurity-CRSI_NeueFixed-CRSI_NeueSign-CRSI_NeueSmall-CR</b>
DFEs	Xerox print devices driven by FFPS and EFI DFEs. Due to the large amount of data contained in a Correlation Mark font, using several Correlation Mark fonts on a single page can cause compression issues.
Color	Select one of the predefined Swatch colors listed in the InDesign Swatch panel. Available Correlation Mark colors are prefixed with SI_CR_. Do not change the Swatch name or the color values as these have no effect on the color used at print time, but VDE does pass the color name to the print device which matches it with a pre-defined Colorkey in VI Compose. Making any changes will invalidate that color selection and unpredictable results may occur.
Scale	Any change in scale has a high likelihood of causing moire. Scaling is strongly discouraged.
Rotation	Any rotation other than multiples of 90° has a high likelihood of causing moiré. Rotation is strongly discouraged.

**CORRELATION MARK FONT TABLE (DEPRECATED)**

The available Correlation Mark fonts and their related font faces are listed here.

FONT FAMILY	FONT FACE (SIZE)
SI_NeueClassic-CR	Book (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueClassic-CR-L2	Italic (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueModern-CR	Bold (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueModern-CR-L2	BoldItalic (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueSecurity-CR	
SI_NeueSecurity-CR-L2	
SI_NeueFixed-CR	
SI_NeueFixed-CR-L2	
SI_NeueSign-CR	
SI_NeueSign-CR-L2	
SI_NeueSmall-CR	Book (6, 8, 10, 12, 14, 16, 18, 20)
SI_NeueSmall-CR-L2	

#### CORRELATION MARK COLOR SWATCHES

Single and two layer Correlation Mark effects can use any of the available predefined color swatches prefixed with SI\_CR\_ in the color swatch panel. The available colors are listed below.

COLOR SWATCHES		
SI_CR_Black50	SI_CR_DarkRed50	SI_CR_Olive50
SI_CR_Black75	SI_CR_DarkRed75	SI_CR_Olive75
SI_CR_Black100	SI_CR_DarkRed100	SI_CR_Olive100
SI_CR_Blue50	SI_CR_Gray50	SI_CR_Red50
SI_CR_Blue75	SI_CR_Gray75	SI_CR_Red75
SI_CR_Blue100	SI_CR_Gray100	SI_CR_Red100
SI_CR_Cyan50	SI_CR_Green50	SI_CR_Teal50
SI_CR_Cyan75	SI_CR_Green75	SI_CR_Teal75
SI_CR_Cyan100	SI_CR_Green100	SI_CR_Teal100
SI_CR_DarkBlue50	SI_CR_Magenta50	SI_CR_Yellow50 (deprecated)
SI_CR_DarkBlue75	SI_CR_Magenta75	SI_CR_Yellow75 (deprecated)
SI_CR_DarkBlue100	SI_CR_Magenta100	SI_CR_Yellow100 (deprecated)
SI_CR_DarkGreen50	SI_CR_Maroon50	
SI_CR_DarkGreen75	SI_CR_Maroon75	
SI CR DarkGreen100	SI CR Maroon100	



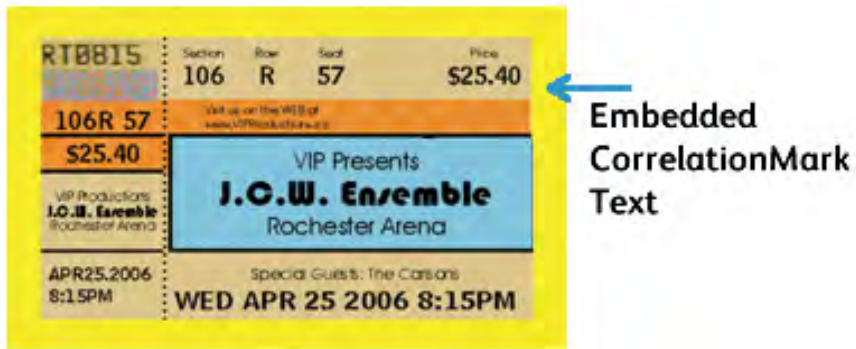
Note: Do not change the name or the color settings on these color definitions. The colors listed give an approximation of the actual color pattern that will be printed on the print device only.

## DESIGNING DOCUMENTS WITH CORRELATION MARK

The characteristics of a Correlation Mark font make it useful to use for adding security features to a document. A solid color patch can be used to insert one or two layers of extra information.

Correlation Mark refers to printing of variable text that would normally show as a solid constant color patch, but a key transparency placed on top with correct orientation would expose the text outline. Both a single layer or a two-layer Correlation Mark is supported. This allows either a single string or two strings to be generated in the same Correlation Mark effect. That is two different strings of text can be used in the same spot. When the key transparency is placed in one orientation it will expose the Layer 1 text, when the transparency is rotated 90 degrees or is turned over using the flip side of the transparency the text in Layer 2 is exposed.

Correlation Mark font can be used to embed information into a document pertaining to its identity, authenticity, value, ownership, or any element that is of value to the rightful owner of the document. In the concert ticket example shown below, the constant color area can be used to hold variable data.



Another piece of information can be placed in the same spot using the Layer 2 font. The figures below show an example where the string, ONE, is placed in one layer and the string, TWO, is placed in the same spot.



## Fluorescent Mark Color

FluorescentMark color, available on FFPS and EFI full color Xerox engines, refers to printing variable text in a way that the content is not clearly visible under normal light but becomes visible under UV/ black-light. When the Specialty Imaging package is installed with VDE a Swatch library containing Specialty Imaging fluorescent color names is installed. Colors from this library need to be added to the InDesign Swatches panel. To produce the Fluorescent effect it is important to follow the procedure below. If this is not done, the Fluorescent effect will not be created correctly and will not print correctly on the printer. VDE will generate the correct VIPP® code on the printer to print the effect using special VIPP® color keys pre-installed on the printer. This effect is available on the FFPS and EFI without the need to install any special fonts.

The two layer fluorescent effect allows you to further disguise the effect by laying down a layer of text that is visible under normal light conditions, but will fade to reveal the hidden text under UV illumination.

Once a Specialty Imaging fluorescent color has been made available to the InDesign Swatches panel, it will be listed using the following syntax `SI_UV_colurname`.

The color swatches contained in the color library are used to provide an approximation of the printed color only. The color values displayed in InDesign are not the values printed at the print device and should not be changed. Likewise it is critical that the color name is not altered, as this is used on the printer to select the appropriate color key on the printer to print the effect.

### SINGLE LAYER EFFECT

To use the single layer effect:

1. Ensure the `SI_UV_colornames` required for the application are loaded to the color swatches panel. Refer to [Using a Specialty Imaging color swatch](#), for a description of this process.
2. Draw a Text Box the size of the effect that will be created. For example, for the fluorescent effect to be ½ inch wide by 3 inches long, make sure to define the text box to be ½ inch wide by 3 inches long. This will represent the area of fluorescent color that will be printed on the document.
3. Select the **text box**, then choose one of the available **SI\_UV colors** as the fill color for the text frame. The text box will be completely filled with the selected color.
4. Select the **text tool**.
5. Select any **OTF** or **TTF font** available to InDesign, do NOT use a Specialty Imaging font. DFont formats are not supported in VDE. Set the font size. Fluorescent text effects work better when the font size is between 8 and 14 points, however, smaller or larger font sizes are allowed.
6. Set **horizontal alignment options** using the Paragraph setting under the Type menu option. To center the text in the text box vertically, select **Object > Text Frame Options** and then select **Center** as the vertical adjustment in the Align box.
7. Select **Paper** as the text color from the swatches panel. The color Paper must be the text color selected, selecting any other color will result in this effect failing at the print device. Make sure that Paper is only applied to the text and NOT to the background fill.
8. Enter the **text** using the keyboard or VDE to insert variable text objects.



## TWO LAYER FLUORESCENT EFFECT

To use the two layer Fluorescent effect:

1. Create the **first Fluorescent Mark layer** using the process described above. Note the exact X, Y coordinates displayed for the layer 1 text box. The second layer text box must be drawn using the same coordinates in order to get the two layer FluorescentMark effect. The layer two text box will exactly overlay the layer one text box.
2. Select a **Top Layer text color** that corresponds to the color used in the bottom layer, refer to the table below for more information. Type the new text string. It is suggested that the second text string use a slightly larger font size. For example, in the effect shown below, the Layer one color selected was SI\_UV\_LEAFGREEN1, this would allow any of these layer two colors (SI\_UV\_L2\_MAGENTA or SI\_UV\_L2\_YELLOW) to be used for the top layer text color. In the example below, SI\_UV\_L2\_YELLOW was selected.
3. Use InDesign to Group the two text frame objects.

The sample below illustrates the two layer Fluorescent effect. The top layer of text is visible under normal light but will fade and the hidden text will be revealed under UV light.



Note: VDE cannot display the Fluorescent effect. The effect is viewable when printed only. For better fluorescent effects, use a brilliant white media. As with all specialty imaging applications, test the application to verify that the effect meets the design specifications and print performance.

## FLUORESCENTMARK COLOR LIMITATIONS AND REQUIREMENTS

No special materials are involved in this effect. Instead the Optical Brightening and Whitening Agent of the paper substrate is used. Consequently some limitations exist based on the paper choice.

Using FluorescentMark color means that text strings that were invisible or hard to see in normal light appear at a much higher contrast under Ultra Violet light. Since no special materials are used, the limitation is that the UV component of normal light will already excite some of the fluorescence effect. Also, the characteristics of the physical toner gloss, and so on might make it possible to decipher the hidden string in visible light. In order to mask this decoding, the color patch is created with a rough texture.

### Paper requirements

The effect strength increases with paper brightness. Paper brightness is normally indicated on the packages. The Xerox Digital Color Elite Gloss families of paper products are recommended.

### Patch Color

Use any of the SI\_UV\_ colors available in the InDesign Color Swatch panel. Do not change the Swatch name or the color values as these have no effect on the color used at print time, but VDE does pass the color name to the print device which matches it with a pre-defined Colorkey in VI Compose. Making any changes will invalidate that color selection and unpredictable results may occur.

Text Content	Any arbitrary content. Best results are obtained when using a limited number of characters.
Text Color	Use the “Paper” option available in the InDesign Swatches panel.
Two Layer Text Color	Refer to the Color swatches for two layer Fluorescent effect table below. The text for the visible text layer Layer 2 - top layer must be one of the colors listed based on the bottom layer SI_UV_color selected.
Text Frame Fill	The text frame must be filled with an SI_UV_colorname selection from the Swatches panel.
Font	Any supported font on the printer or supported by VDE.
Text Size	Not restricted, but should be large enough to be easily visible 10 - 14pts, as larger point sizes may be visible without UV lighting.
DFEs	Xerox only, FFPS and EFI.
Color	Select one of the <b>predefined Swatch colors</b> listed in the InDesign Swatch panel. Available fluorescent colors are prefixed with SI_UV_. Do not change the Swatch name or the color values as these have no effect on the color used at print time, but VDE does pass the color name to the print device which matches it with a pre-defined Colorkey in VI Compose. Making any changes will invalidate that color selection and unpredictable results may occur.
Scale	Scaling will affect the masking, but is allowed
Rotation	Rotation will affect the masking, but is allowed.

#### FLUORESCENTMARK (UV) COLOR SWATCHES

COLOR SWATCHES REQUIRING NO SPECIAL COLOR MANAGEMENT		
SI_UV_BISTROGREEN1	SI_UV_GREENERPASTURES2	SI_UV_REDDISHORANGE1
SI_UV_BISTROGREEN2	SI_UV_HUNTERGREEN1	SI_UV_REDDISHORANGE2
SI_UV_BLAZE_ORANGE1	SI_UV_HUNTERGREEN2	SI_UV_REDDISHYELLOW1
SI_UV_BLUE1	SI_UV_JUNEBUG2	SI_UV_ROSERED1
SI_UV_BLUEBLUE1	SI_UV_JUNGLEGREEN1	SI_UV_RUSTICBROWN1

COLOR SWATCHES REQUIRING NO SPECIAL COLOR MANAGEMENT		
SI_UV_BLUEBLUE2	SI_UV_JUNGLEGREEN2	SI_UV_SEAFOAMGREEN1
SI_UV_BLUEGRAY	SI_UV_LEAFGREEN1	SI_UV_SKYBLUE1
SI_UV_BRONZEMIST2	SI_UV_LEAFGREEN2	SI_UV_SPRINGGREEN1
SI_UV_BUTTERNUT1	SI_UV_LIMEGREEN1	SI_UV_SPRINGGREEN2
SI_UV_CHIPMUNK2	SI_UV_MAROON1	SI_UV_STRAW1
SI_UV_DARKBROWN11	SI_UV_MEDIUMSEAGREEN1	SI_UV_STRAW2
SI_UV_DARKBROWN12	SI_UV_MEDIUMSEAGREEN2	SI_UV_TAUPEROD1
SI_UV_DARKORANGE1	SI_UV_ORANGEROD1	SI_UV_TAUPEROD2
SI_UV_DARKSKY1	SI_UV_ORANGEROD2	SI_UV_TURTLEGREEN1
SI_UV_DEEPPINK1	SI_UV_PACIFIC2	SI_UV_TURTLEGREEN2
SI_UV_DEEPTAL1	SI_UV_PALEBLUE2	SI_UV_VERMILION1
SI_UV_DEEPTAL2	SI_UV_PARKNAVY1	SI_UV_VERMILION2
SI_UV_GOLDENROD1	SI_UV_PARKNAVY2	SI_UV_VETIVER1
SI_UV_GRASSGREEN1	SI_UV_PINEBARK2	SI_UV_YELLOW1
SI_UV_GRASSGREEN2	SI_UV_PLUMPERFECT1	SI_UV_YELLOWISHGREEN1
SI_UV_GREENERPASTURES1	SI_UV_PLUMPERFECT2	SI_UV_YELLOWISHGREEN2

COLOR SWATCHES REQUIRING "DIRECT CMYK" COLOR MANAGEMENT SETTINGS		
SI_UV_BROWN1	SI_UV_GOLD1	SI_UV_PURPLE
SI_UV_DARKGRAY1	SI_UV_GOLD2	SI_UV_PURPLE1
SI_UV_DARKPINK1	SI_UV_GREEN1	SI_UV_RUSSIANBLUE
	SI_UV_PINK	



Note: Do not change the name or the color settings on these color definitions. The colors listed give an approximation of the actual color pattern that will be printed on the print device only. These colors affect the color of the background box only. VDE selects the text color automatically.

COLOR SWATCHES FOR TWO LAYER FLUORESCENT EFFECT	
BOTTOM LAYER SI_UV_COLOR	TOP LAYER FLUORESCENT COLOR (THE VISIBLE TEXT)
SI UV BLUEBLUE1 (deprecated)	SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV BISTROGREEN1	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV BISTROGREEN2	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV BLAZE ORANGE1	SI UV CYAN or SI UV YELLOW
SI UV BLUEBLUE2 (deprecated)	SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV BRONZEMIST2	SI UV CYAN or SI UV YELLOW
SI UV BUTTERNUT1	SI UV CYAN or SI UV YELLOW
SI UV CHIPMUNK2	SI UV CYAN or SI UV YELLOW
SI UV DARKBROWN11	SI UV CYAN or SI UV YELLOW
SI UV DARKBROWN12	SI UV CYAN or SI UV YELLOW
SI UV DARKORANGE1 (deprecated)	SI UV 2L CYAN or SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV DARKPINK1	SI UV 2L CYAN
SI UV DARKSKY1(deprecated)	SI UV 2L YELLOW
SI UV GOLDENROD1 (deprecated)	SI UV 2L CYAN or SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV GRASSGREEN1 (deprecated)	SI UV 2L CYAN or SI UV 2L MAGENTA
SI UV GREENERPASTURES1	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV GREENERPASTURES2	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV HUNTERGREEN1	SI UV CYAN or SI UV YELLOW
SI UV HUNTERGREEN2	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV JUNEBUG2	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV JUNGLEGREEN1	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV JUNGLEGREEN2	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV LEAFGREEN1	SI UV 2L CYAN or SI UV 2L MAGENTA
SI UV LEAFGREEN2	SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV LIMEGREEN1	SI UV 2L CYAN or SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV MAROON1 (deprecated)	SI UV 2L CYAN or SI UV 2L YELLOW

COLOR SWATCHES FOR TWO LAYER FLUORESCENT EFFECT	
BOTTOM LAYER SI_UV_COLOR	TOP LAYER FLUORESCENT COLOR (THE VISIBLE TEXT)
SI UV MEDIUMSEAGREEN1	SI UV 2L MAGENTA
SI UV ORANGEROD1 (deprecated)	SI UV CYAN or SI UV MAGENTA
SI UV PACIFIC2 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV PARKNAVY1 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV PARKNAVY2 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV PINEBARK2 (deprecated)	SI UV CYAN
SI UV PLUMPERFECT1 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV PLUMPERFECT2 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV REDDISHORANGE1	SI UV 2L CYAN or SI UV 2L MAGENTA
SI UV REDDISHORANGE2	SI UV 2L CYAN or SI UV 2L MAGENTA
SI UV ROSERED1	SI UV 2L CYAN
SI UV SPRINGGREEN1	SI UV 2L YELLOW
SI UV SPRINGGREEN2	SI UV 2L YELLOW
SI UV STRAW1 (deprecated)	SI UV 2L MAGENTA
SI UV STRAW2 (deprecated)	SI UV 2L CYAN or SI UV 2L MAGENTA or SI UV 2L YELLOW
SI UV TAUPEROD2 (deprecated)	SI UV CYAN or SI UV YELLOW
SI UV TURTLEGREEN1 (deprecated)	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV TURTLEGREEN2 (deprecated)	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV VERMILION1	SI UV 2L CYAN SI UV 2L MAGENTA
SI UV VERMILION2	SI UV 2L MAGENTA
SI UV VETIVER1 (deprecated)	SI UV CYAN or SI UV MAGENTA or SI UV YELLOW
SI UV YELLOW1	SI UV 2L YELLOW
SI_UV_YELLOWISHGREEN1 (deprecated)	SI_UV_2L_CYAN or SI_UV_2L_MAGENTA or SI_UV_2L_YELLOW
SI_UV_YELLOWISHGREEN2 (deprecated)	SI_UV_2L_YELLOW

## DESIGNING DOCUMENTS WITH FLUORESCENTMARK COLORS

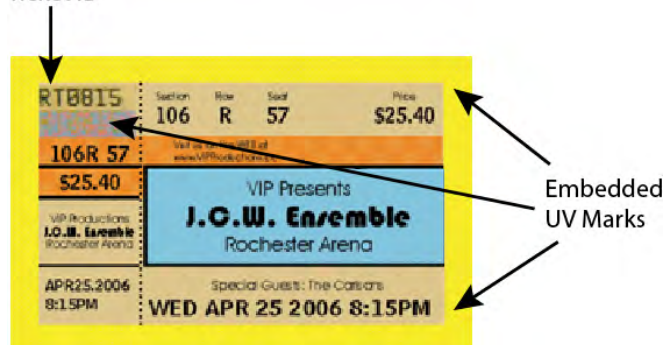
The method by which the FluorescentMark colors are created and rendered makes it difficult to alter electronically or physically, and if designed well, makes it difficult for a user to even realize that information is embedded in textured color patterns. Another benefit of FluorescentMark colors is that to decode the hidden information, only a UV light source is required. Many inexpensive types of UV sources exist for example, portable money detectors, flashlights, and even key chains.

FluorescentMark colors are used to embed a text string into a textured color pattern in such a way that the text is indecipherable under normal viewing light, and visible only under ultra-violet (UV) lighting. In addition, a second layer of visible text can be used to further hide or restrict the visibility of the hidden layer. When viewed under UV illumination the top layer of text will fade to allow the hidden layer to become visible.



In the concert ticket example below, a unique ticket identification (ID) number is included on the ticket. The same ticket ID can be encoded as FluorescentMark colors, which appear as textured color patterns at different locations on the ticket.

Ticket ID



In the example below, a portion of the ticket is enlarged to show the ticket ID in plain text with FluorescentMark colors immediately below. The FluorescentMark color appears as a textured color pattern.



Authenticity of the ticket is established by viewing it under UV light and comparing the FluorescentMark colors with the visible ID number, as shown below. Parity indicates that it is an authentic ticket.



The same ticket portion from the previous illustration but viewed under UV light. The FluorescentMark colors now reveal a number that matches the visible ID.

Similar applications for FluorescentMark colors are on coupons, checks, college grade reports, etc.

## GlossMark® Text

The GlossMark feature, available on Xerox only FFPS and EFI Full Color only, refers to printing variable text strings in a way that the content is not visible in straight-on view, but becomes visible as gloss under inclined illumination.

### To use the GlossMark effect:

1. Using the Swatch panel create a New VDE GL Vector Swatch. **Vector Pattern Design using VDE**. It is recommended to use the SI\_GL\_colornames that can be loaded to the color swatches panel. Refer to **Using a Specialty Imaging color swatch** for a description of this process.
2. Draw a Text Box the size of the effect that will be created. For example, for the GlossMark effect to be ½ inch wide by 3 inches long, make sure to define the text box to be ½ inch wide by 3 inches long. This will represent the area of GlossMark effect that will be printed on the document.
3. Select the **text box**, then choose one of the GL Vector Swatch created in step 1 as the fill color for the text frame. The text box will be filled with a hash pattern representing the selected color.
4. Select the **text tool**.
5. Select any **OTF** or **TTF font** available to InDesign do NOT use a Specialty Imaging font. DFont formats are not supported in VDE. Set the font size.
6. Set **horizontal alignment options** using the Paragraph setting under the Type menu option. To center the text in the text box vertically, select **Object > Text Frame Options** and then select **Center** as the vertical adjustment in the Align box.
7. Select **Paper** as the text color from the swatches panel. Selecting any other color will result in this effect failing at the print device. Make sure that Paper is only applied to the text and NOT to the background fill.
8. Enter the **text** using the keyboard or VDE to insert variable text objects.

## GlossMark® Text font (deprecated)

### GlossMark fonts are deprecated but still available for backward compatibility.

GlossMark Text font, available on Xerox only FFPS and EFI Full Color only, refers to printing variable text strings in a way that the content is not visible in straight-on view, but becomes visible as gloss under inclined illumination. VDE uses a combination of special GlossMark swatches and Specialty Imaging GlossMark Text fonts to create the gloss effect. The fonts installed and available in the font drop-down list starting with SI\_ are screen fonts only. They are there to approximate the size and color of the printed text string. To print the effect on the Xerox printer you must first install the GlossMark printer font to the printer. Specialty Imaging fonts can be downloaded. Refer to [Specialty Imaging and Barcode Font download](#) for more information about downloads.

When the Specialty Imaging package is installed with VDE, the Specialty Imaging screen fonts are installed and will be listed in the font pull-down list, with the prefix SI\_GL-familyname. A Swatch library containing Specialty Imaging Gloss color names is also installed. Colors from this library need to be added to the InDesign Swatches panel. Refer to [Using a Specialty Imaging color swatch](#).

There are six fontname Font Families to select from; these are listed in the Font drop-down list. In addition all have four font styles Book or Normal, Italic, Bold and BoldItalic, with the exception of SI\_NeuSmall-GL, which is only available in Book or normal.

The color swatches are used to provide an approximation of the printed color only. The color values displayed in InDesign are not the values printed at the print device and should not be changed. Likewise it is critical that the color name or the font name is not altered, as these provide information to the printer at print time.

To use the effect:

1. Ensure the SI\_GL\_ colors required for the application are loaded to the color swatches panel. Refer to [Using a Specialty Imaging color swatch](#), for a description of this process.
2. Draw a Text Box the size of the effect that will be created. Make sure the text box is wide enough to accommodate the largest text string that will be placed in this text box. The height of the text box is irrelevant as it is the size of the actual SI GlossMark font that will determine the size of the GL color printed on the page.
3. Selecting an SI font is not the same as normal font selection in InDesign. To select the Specialty Imaging GlossMark Text font, first select the **GL font family** from those available in the drop-down box then insert fonts with the SI\_fontfamilyname-GL format. Next, select the **Font Style**. This involves selecting the font style with the font point size. The majority of the SI fonts with the exception of the SI\_NeuSmall family are available in the following sizes such as 18, 24, 30, 36, 42, 48, 54, 60, 66 and 72.
4. Next, for correct display in InDesign, you should set the **InDesign point size option** to match the font you selected.

For example, to use an SI\_GlossMark font from the font family SI\_NeuSign-GL at a point size of 36 with a bold Italic style, select the SI\_NeuSign-GL family from the font list. Next select BoldItalic-36 from the Font Style list. Finally it is important for viewing purposes on the screen to set the InDesign point size option to match the BoldItalic-36 setting by setting the point size to 36.

5. With the Text Insertion cursor blinking in the text box, select the font color. Select a SI\_GL color from the GL colors in the Swatches panel. Only the text color will be affected. Do NOT set the text background color, which should remain set to None.
6. Enter the required text using the keyboard or VDE to insert variable text objects or a combination of both. Make sure that the text box is wide enough to contain the longest string that will be printed. Keep text to a single line.



As with all Specialty Imaging applications, test the application to validate the effect meets the design specifications and print performance.

## GLOSSMARK TEXT LIMITATIONS AND REQUIREMENTS

Paper Requirements	GlossMark Text requires paper with a smooth glossy surface, for example, a coated glossy paper.
GlossMark Text Color	Use any of the SI_GL colors available in the InDesign Color Swatch panel. Do not change the Swatch name or the color values as these have no effect on the color used at print time, but VDE does pass the color name to the print device which matches it with a pre-defined Colorkey in VI Compose. Making any changes will invalidate that color selection and unpredictable results may occur.
Text Content	Arbitrary font content, the text string should be reasonably short, since color shifts can occur in large constant areas.

### Limitations that only apply to GlossMark Fonts (Deprecated)

GlossMark Text Size	Must set the font family name and the font style attribute. The InDesign point size should reflect the number displayed in the style selection. For example, if the style selected is Book-24, you should set the InDesign point size to 24. Failure to do this will result in an incorrect display of the GlossMark text in the InDesign screen.
Font	Only the Xerox-supplied SI_NeueClassic-GL, SI_NeueModern-GL, SI_NeueSecurity-GL, SI_NeueSign-GL, SI_NeueFixed-GL, and SI_NeueSmall-GL type faces are supported.
DFEs	FFPS and EFI. Due to the large amount of data contained in a GlossMark font, using several GlossMark fonts on a single page can cause compression issues.
Color	Select one of the <b>predefined Swatch colors</b> listed in the InDesign Swatch panel. Available GlossMark colors are prefixed with SI_GL_. Do not change the Swatch name or the color values as these have no effect on the color used at print time, but VDE does pass the color name to the print device which matches it with a pre-defined Colorkey in VI Compose. Making any changes will invalidate that color selection and unpredictable results may occur.

Scale	Any change in scale has a high likelihood of causing moiré. Scaling is strongly discouraged.
Rotation	Any rotation, other than multiples of 90°, has a high likelihood of causing moiré. Rotation is strongly discouraged.

## GLOSSMARK TEXT FONT TABLES

The available GlossMark Text fonts and their related font faces are listed here:

FONT FAMILY	FONT FACE (SIZE)
SI_NeueClassic-GL	Book (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueModern-GL	Italic (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueSecurity-GL	Bold (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueFixed-GL	BoldItalic (18, 24, 30, 36, 42, 48, 54, 60, 66, 72)
SI_NeueSign-GL	
SI_NeueSmall-GL	Book (6, 8, 10, 12, 14, 16, 18, 20)

## GLOSSMARK COLOR SWATCHES

Select any of the GlossMark colors listed in the color swatch panel as the fill color for the selected GlossMark text font. The available colors for GlossMark effects are prefixed with SI\_GL\_ and are listed in the table below.

COLOR SWATCHES		
SI_GL_Black	SI_GL_lightBlue	SI_GL_Olive
SI_GL_Blue	SI_GL_lightGreen	SI_GL_Peach
SI_GL_Cyan	SI_GL_Magenta	SI_GL_Red
SI_GL_Gray	SI_GL_Maroon	SI_GL_Yellow
SI_GL_Green		



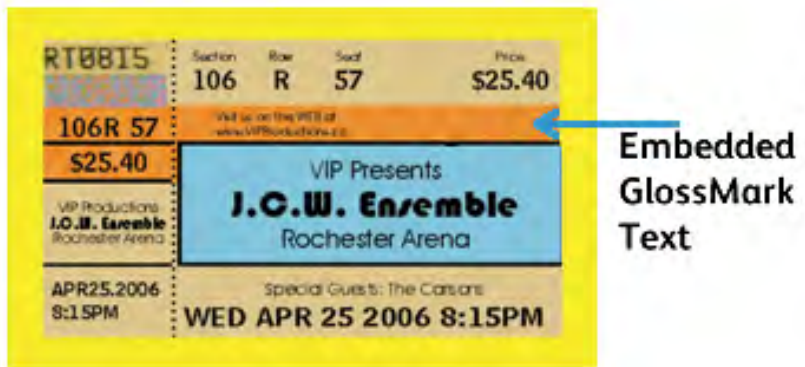
Note: Do not change the name or the color settings on these color definitions. The colors listed give an approximation of the actual color pattern that will be printed on the print device only.

## DESIGNING DOCUMENTS WITH GLOSSMARK TEXT

The differential gloss characteristics of GlossMark Text make it difficult to reproduce or alter electronically or physically. If designed well, the GlossMark Text also has an aesthetic component, increasing the perceived value of the ticket.

GlossMark Text is printed in a constant color that, under certain angles of illumination, will show a variable data string in the local gloss of the solid color.

In the concert ticket example below, the constant color area below the ticket price can be used to hold variable data.



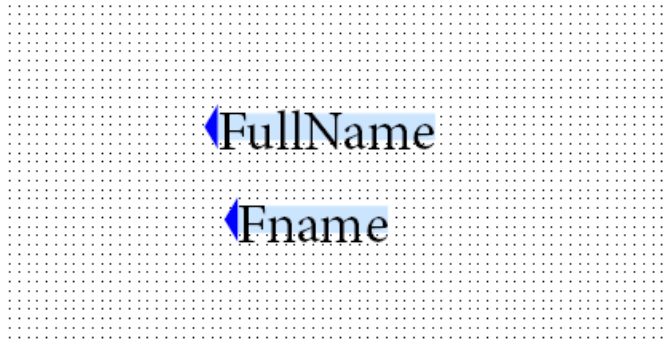
In the examples below, the GlossMark Text area is enlarged in straight-on view, showing a solid color. Then the same area is shown under an angled illumination, revealing the ticket price as gloss variation.



Similar applications for GlossMark Text are coupons, checks, college grade reports, and so on.

## Void Pantograph

Void Pantograph is the special effect based on the text pattern. This effect works with combination of background pattern and foreground text pattern. Background pattern defines the size or frequency of the pixel for the background patch that hides the text. Foreground text pattern defines the size or frequency of the pixel for the text that needs to be hidden. This pattern defined using the **SETPAT** background pattern and foreground text pattern are set with values in SETPAT command.

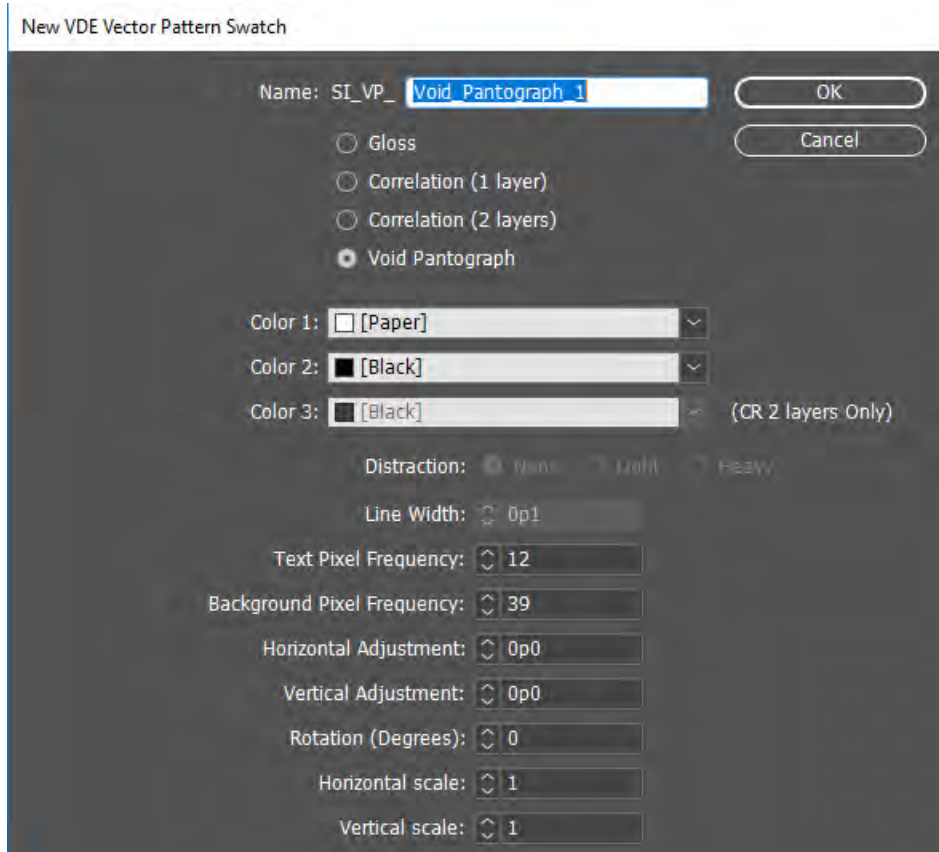


### HOW TO CREATE VOID PANTOGRAPH

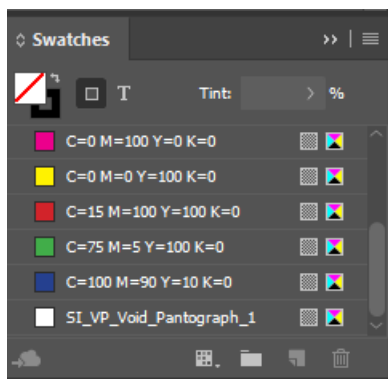
To create Void Pantograph Swatch:

1. Select the **New VDE Vector Pattern Swatch** menu from Swatch Panel.
2. Enter a meaningful name for the Void pantograph, for example, Void\_Pantograph\_1.
3. Select Void Pantograph Radio Button.
4. Provide valid Text Pixel frequency and Background Pixel Frequency.
5. Select the proper values for Color 1 and Color 2.
6. Similarly provide valid values for other entities.

7. Click **OK** Button.

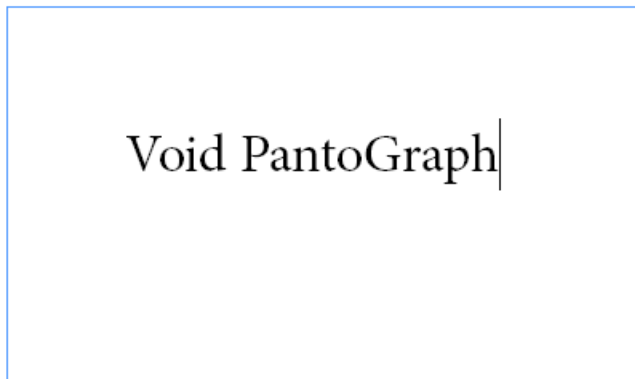


8. To create a new swatch, click **OK**.

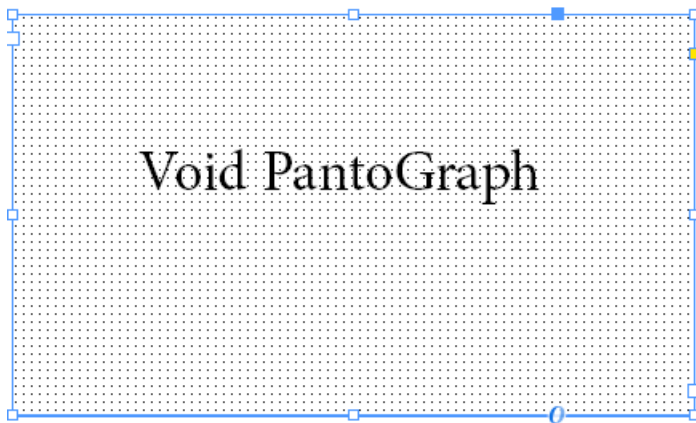


## APPLYING A VOID PANTOGRAPH TO A FRAME

1. Create a text frame. Place either variable or static text anywhere in the text frame.



2. To apply the vector pattern, select a text frame. To apply the swatch on the text frame, click **Swatch**.



## VECTOR PATTERN DESIGN USING VDE

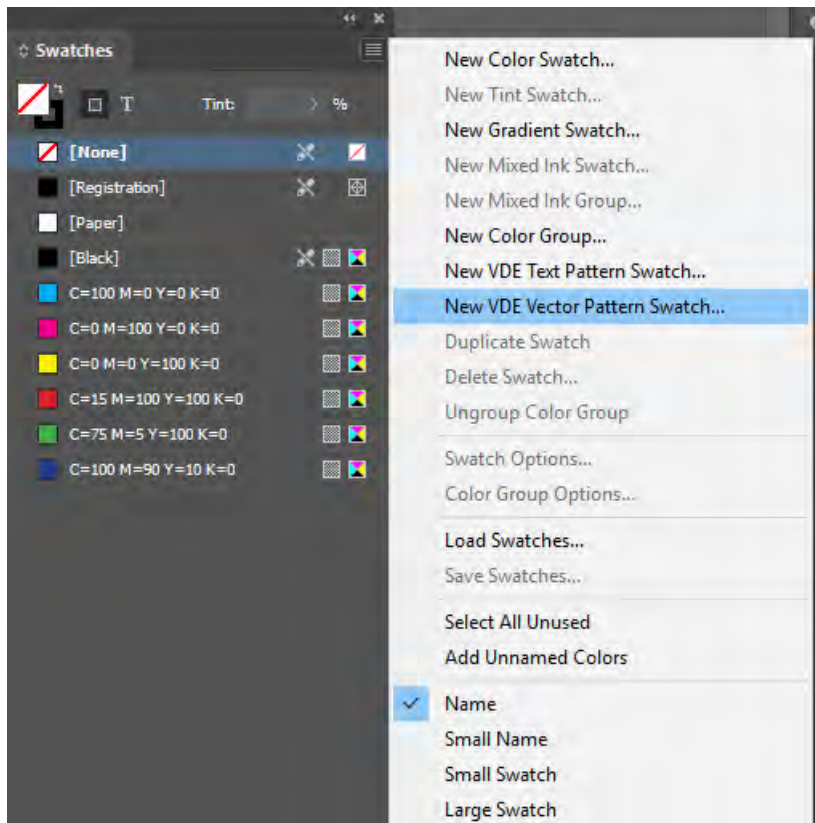
Vector Pattern can be designed using VI Design Express. Vector Pattern can be of any of the four types:

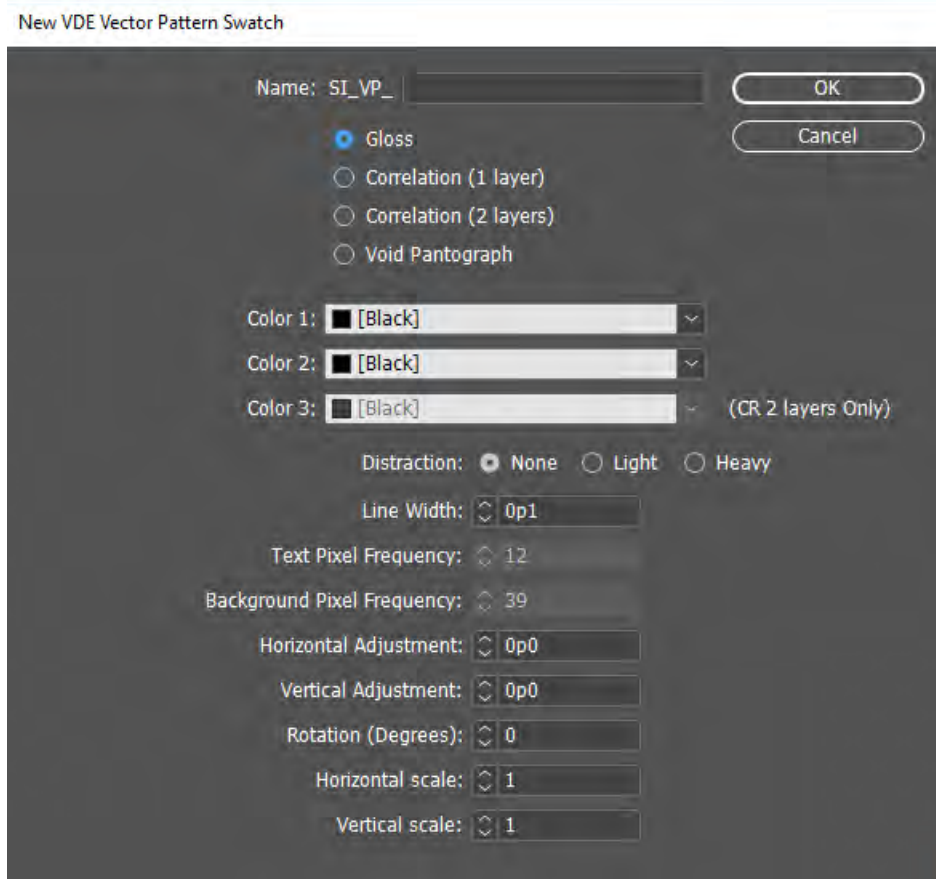
- GlossMark
- Correlation layer
- Correlation 2 layer
- Void Pantograph

Using any one of these we will be able to create a vector pattern in the document. Follow the below steps to apply vector pattern to the document.

1. Open the swatches and click on the New VDE GL/CR Vector Pattern Swatch... from the menu.

2. Click the menu, New VDE GL/CR Vector Pattern Swatch dialog box appears.





3. Fill the necessary information for the Vector Pattern.

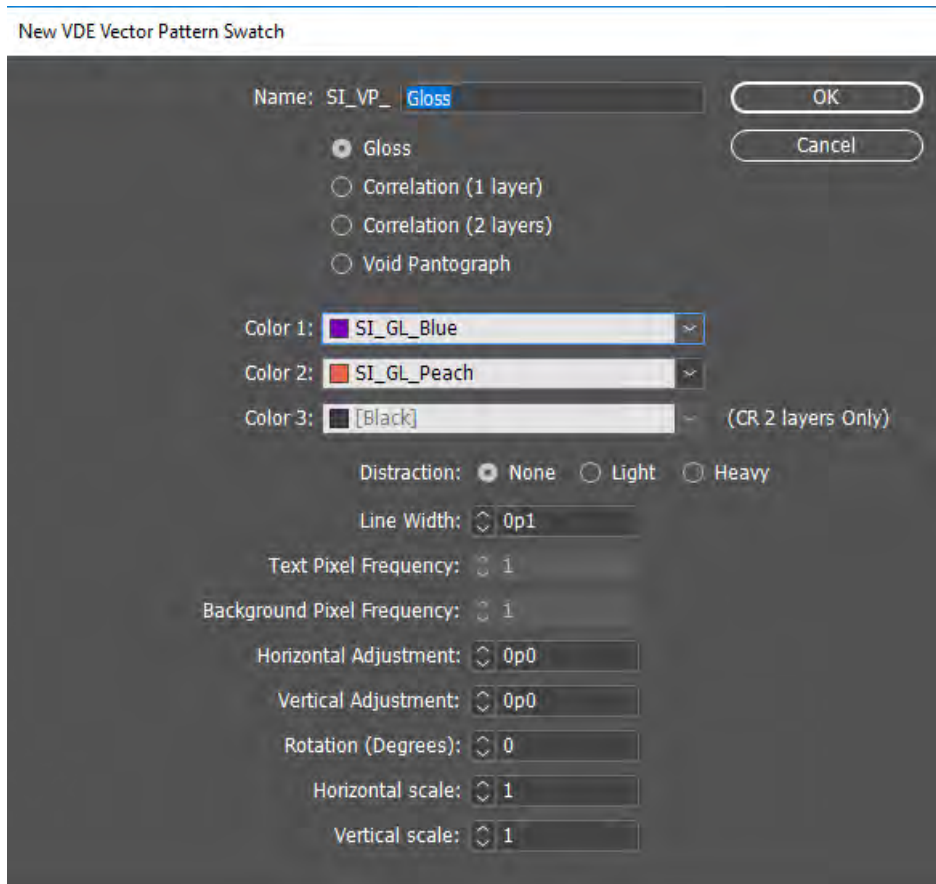


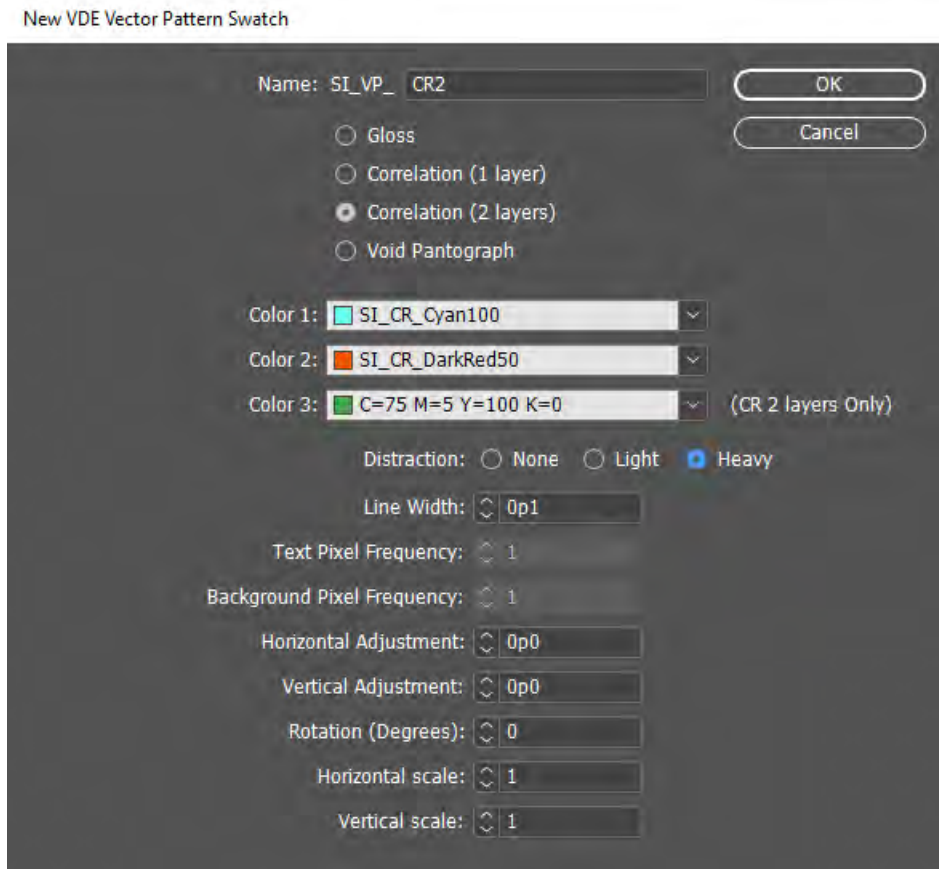
Note: By varying the horizontal and vertical adjustments, the rotation, and the horizontal and vertical scale, it is possible to create custom correlation effects that will only work with the associated key transparency using the same parameters.

4. To create a custom key transparency, perform the following:
  - a. Make a copy of the file VDE\xgf\demo\SI\_VP\_Correlation\_key.nm.
  - b. Edit it using a text editor or VI Design Pro.
  - c. Print it or create a page using VI Design Express containing a box filled with a single Correlation pattern, choose Color1=None and Color2=Black.
  - Name: Give a unique Swatch Name to the new swatch to be created
  - Vector Pattern Type: Select the type of vector pattern to be created from the radio button (Gloss, Correlation, Correlation (2 Layers))
  - Color 1: Color 1 indicates the hatch background color for the vector pattern to be applied.
  - Color 2: Color 2 indicates the hatch line color to be applied for the vector pattern.
  - Color 3: Color 3 is enabled for correlation (2 layers) only, this indicates the second hatch line color for the second layer of the vector pattern.
  - Distraction: Adds a distraction pattern to the vector pattern. The distraction pattern values are none, light or heavy.

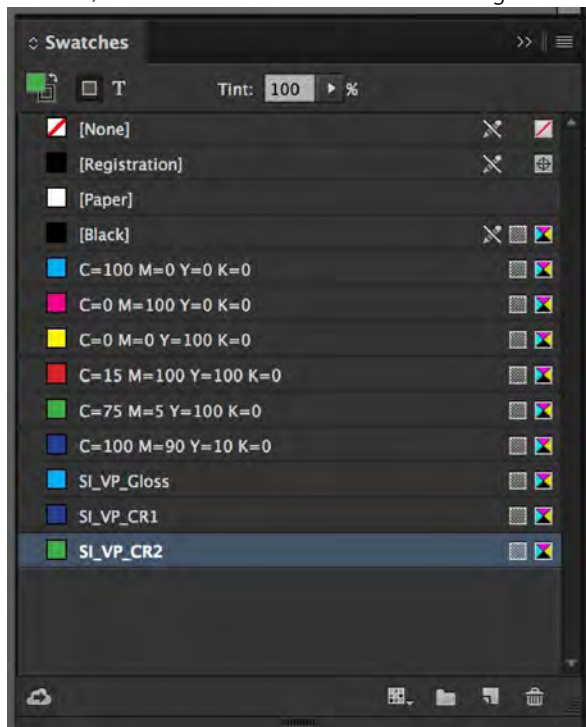


- Line Width: This sets the line width of the hatch lines in the vector pattern.
- Text Pixel Frequency: This defines the frequency and size of the pixel for the text that needs to be hidden.
- Background Pixel Frequency: This defines the frequency and size of the pixel for the background patch that hides the text.
- Horizontal Adjustment: This adjusts the vector pattern lines horizontally.
- Vertical Adjustment: This adjusts the vector pattern lines vertically.
- Rotation: This rotates the hatch lines to the given degree.
- Horizontal Scale: This will scale the vector pattern hatch lines horizontally.
- Vertical Scale: This will scale the vector pattern hatch lines vertically.

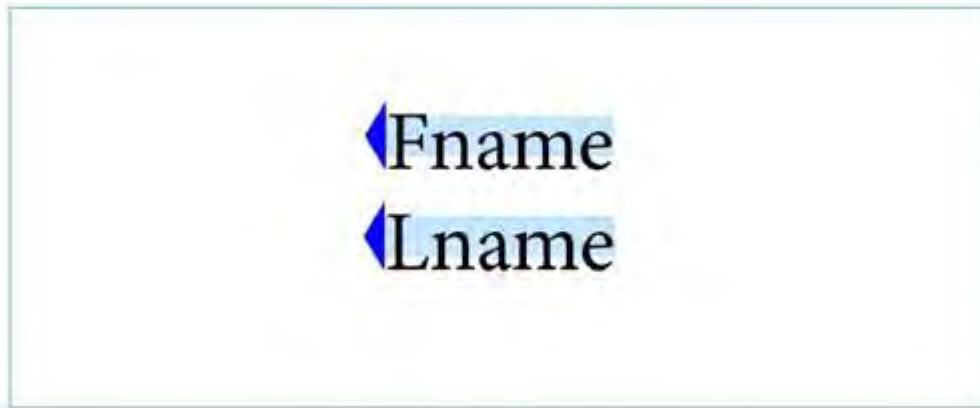




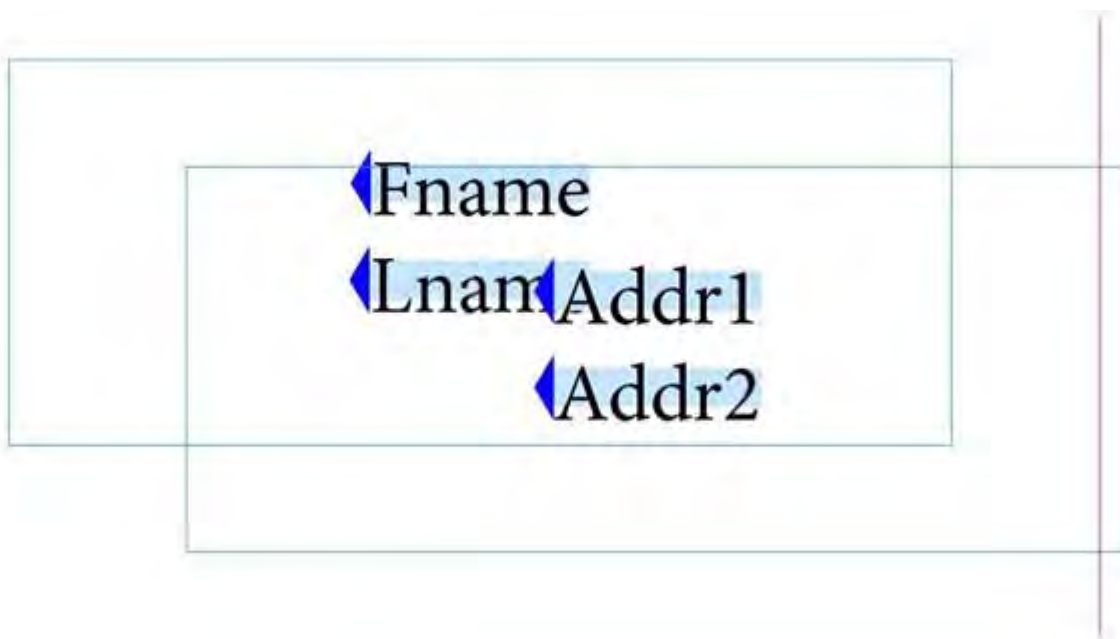
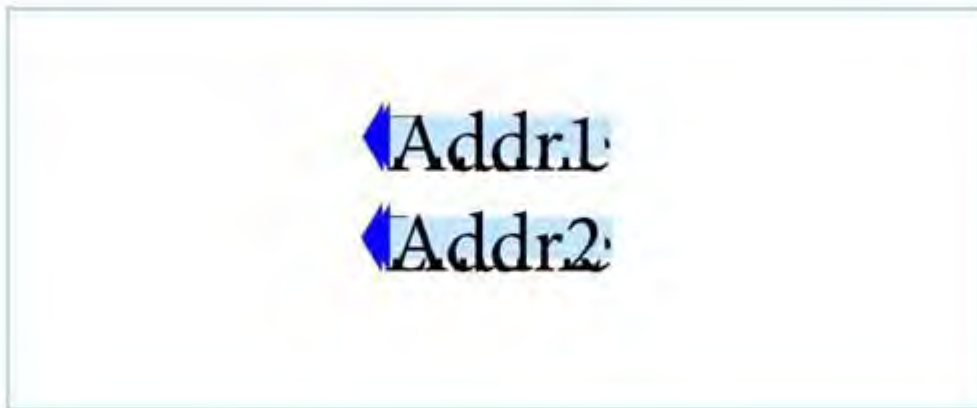
5. Click Ok, new swatch in the swatch list starting with SI\_VP\_<given name> will be created.



6. Place a text frame and a text in the middle of the frame either variable or static text.

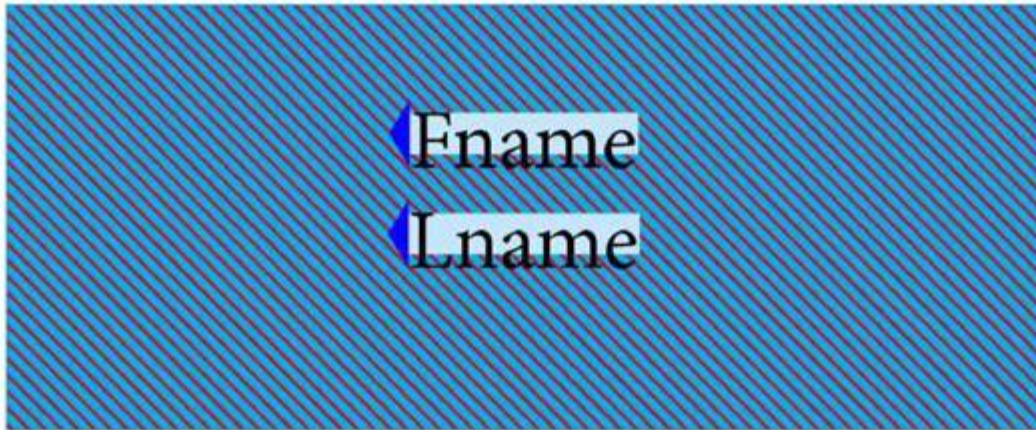


7. For Correlation 2 Layer, place another text Frame with different text in it for the second layer. This text frame should be of same size as the first layer text frame and should be placed on top of each other correctly.

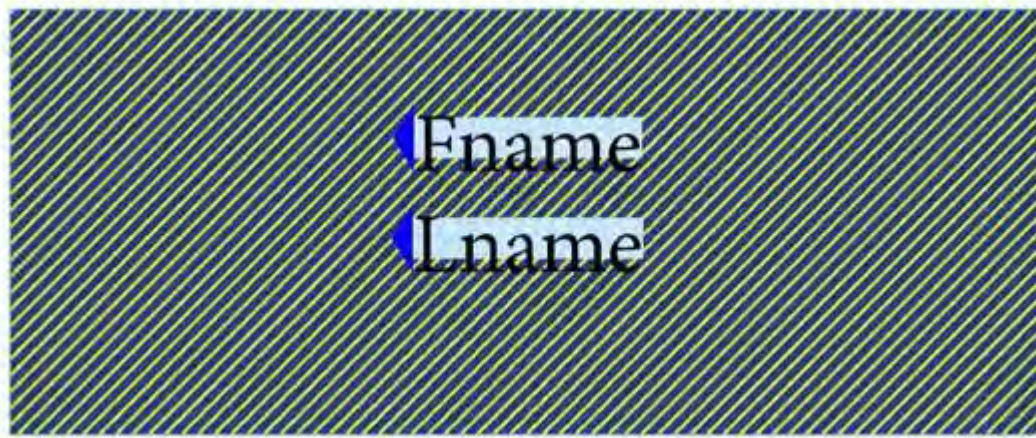


8. Select the text frame to which the vector pattern has to be applied and apply the swatch by clicking on it (SI\_VP\_<given name>).

Gloss Mark:

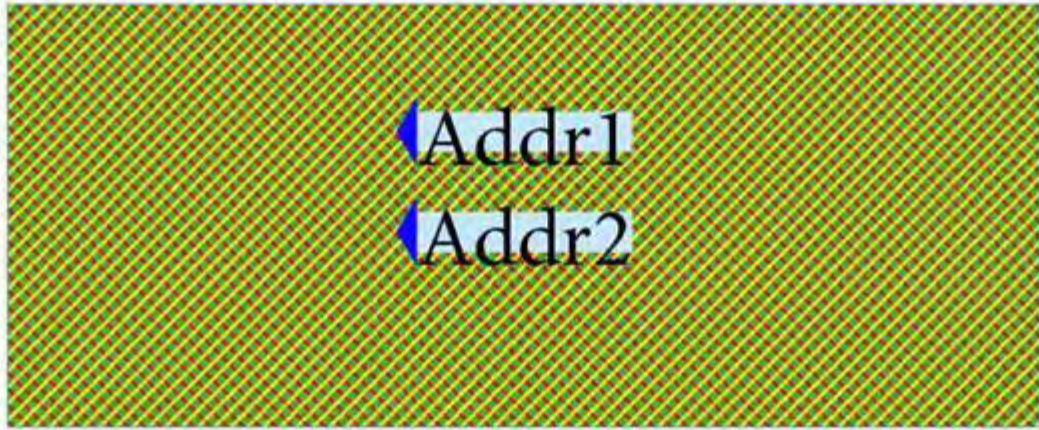


Correlation:





9. For Correlation 2 Layer, select both the text frames together and then apply the swatch SI\_VP\_CR2.



10. After the design is complete we can export the document as vpc and print it for the effect to be verified.

## Applying Specialty Imaging Effects to Monochrome TIFF images

You can apply Specialty Imaging effects such as VP/GL, VP/CR, UV, IR and Artistic black can be applied to monochrome TIFF images.

To apply specialty imaging effects to monochrome TIFF images, select an option:

- Create an InDesign document with a tiff image in two frames
- Create SI\_VP\_GlossMark swatch pattern with no distraction pattern as described above in [Vector Pattern Design using VDE](#)
- Create SI\_VP\_CRMark swatch pattern with no distraction pattern, For details, refer to [Vector Pattern Design using VDE](#)
- Apply SI\_VP\_GlossMark on first tiff image
- Apply SI\_VP\_CRMark on second tiff image
- Export as VPC and print it for the effect to be verified.



Note: Specialty Imaging effects can be applied to monochrome TIFF images only and cannot be applied to grayscale or color TIFF images.

## Infrared Color

Infrared color, available on Xerox only FFPS and EFI Full Color engines, refers to printing variable strings in a way that the content is not visible under normal light, but can be viewed when using Infrared light. Predefined Infrared color keys are listed in a table at the end of this section.

### INFRARED COLOR SWATCHES

Infrared effects are available as a single layer or two layer effects. A single layer effect hides a string of text under a solid color, while a two layer infrared effect hides a string of text under a color that has additional text printed on top. When an infrared light source is used to view the effects, the top layer of text or two layer and the area of color covering the hidden text will disappear revealing the bottom layer of text. The text colors and fill colors must be selected from the SI\_Color swatches for Infrared printing.

A Swatch library containing Specialty Imaging Infrared color names is installed when the Specialty Imaging option or Complete option is selected at installation. Colors from this library need to be added to the InDesign Swatches panel. Refer to [Using a Specialty Imaging color swatch](#).

The table below shows the SI\_IR\_ colors available for single and two layer Infrared printing.

COLOR SWATCHES REQUIRING NO SPECIAL COLOR MANAGEMENT		
SI_IR_2L_BLUEPURPLE1	SI_IR_2L_PALEBLUE1	SI_IR_LAWNGREEN1
SI_IR_2L_DARKPINK1	SI_IR_2L_PURPLE1	SI_IR_LIGHTPURPLE1
SI_IR_2L_GRAYBROWN1	SI_IR_ARGYLEPINK1	SI_IR_MALLARDGREEN1
SI_IR_2L_GREENYELLOW1	SI_IR_BLACKSLATE1	SI_IR_MAROON2
SI_IR_2L_LIGHTBROWN1	SI_IR_BRONZEGREEN1	SI_IR_MAZARINE1
SI_IR_2L_LIGHTCYAN1	SI_IR_CINNABAR1	SI_IR_OLIVE21
SI_IR_2L_LIGHTGRAY1	SI_IR_COCONUTSHELL1	SI_IR_ORANGERED1
SI_IR_2L_LIGHTGRAY2	SI_IR_CORDOVAN1	SI_IR_ORANGERED2
SI_IR_2L_LIGHTGREEN1	SI_IR_CRIMSON1	SI_IR_RASPBERRY1
SI_IR_2L_LIGHTMAGENTA1	SI_IR_DARKGREEN2	SI_IR_RED1
SI_IR_2L_LIGHTOLIVE1	SI_IR_DARKPURPLE1	SI_IR_RHODODENDRON1
SI_IR_2L_LIGHTPURPLE1	SI_IR_EVERGREEN1	SI_IR_ROSEPINK1
SI_IR_2L_LIGHTPURPLE2	SI_IR_GOLDENROD1	SI_IR_ROSEVIOLET1
SI_IR_2L_LIGHTRED1	SI_IR_GRAPEJUICE1	SI_IR_SNORKELBLUE1
SI_IR_2L_LIGHTYELLOW1	SI_IR_JASMINEGREEN1	SI_IR_VIOLETKNIT1
SI IR 2L ORANGE1	SI IR KNIT1	

COLOR SWATCHES REQUIRING “DIRECT CMYK” COLOR MANAGEMENT SETTINGS		
SI_IR_BLUE1	SI_IR_DP_FIREBRICK1	SI_IR_DP_SUBLIME1
SI_IR_DARKBLUE1	SI_IR_DP_FIREBRICK2	SI_IR_DP_SUBLIME2
SI_IR_DARKGREEN1	SI_IR_DP_LIGHTORANGE1	SI_IR_DP_PURPLE1
SI_IR_DARKOLIVE1	SI_IR_DP_LIGHTORANGE2	SI_IR_DP_PURPLE2
SI_IR_DEEPBLUE1	SI_IR_DP_PINK1	SI_IR_DP_CYAN1
SI_IR_DEEPTOAL1	SI_IR_DP_PINK2	SI_IR_DP_CYAN2
SI_IR_DP_LIGHTYELLOW1	SI_IR_DP_ORANGE1	
SI_IR_DP_LIGHTYELLOW2	SI_IR_DP_ORANGE2	
SI_IR_DP_YELLOW1	SI_IR_DP_MAGENTA1	
SI IR DP YELLOW2	SI IR DP MAGENTA2	

SINGLE LAYER INFRARED COLOR SELECTIONS THE FILL COLOR FOR THE TEXT FRAME OPERATION):	
SI_IR_2L_BLUEPURPLE1	SI_IR_2L_PALEBLUE1
SI_IR_2L_DARKPINK1	SI_IR_2L_PURPLE1
SI_IR_2L_GRAYBROWN1	SI_IR_ARGYLEPINK1
SI_IR_2L_GREENYELLOW1	SI_IR_BLACKSLATE1
SI_IR_2L_LIGHTBROWN1	SI_IR_BRONZEGREEN1
SI_IR_2L_LIGHTCYAN1	SI_IR_CINNABAR1
SI_IR_2L_LIGHTGRAY1	SI_IR_COCONUTSHELL1
SI_IR_2L_LIGHTGRAY2	SI_IR_CORDOVAN1
SI_IR_2L_LIGHTGREEN1	SI_IR_CRIMSON1
SI_IR_2L_LIGHTMAGENTA1	SI_IR_DARKGREEN2
SI_IR_2L_LIGHTOLIVE1	SI_IR_DARKPURPLE1
SI_IR_2L_LIGHTPURPLE1	SI_IR_EVERGREEN1
SI_IR_2L_LIGHTPURPLE2	SI_IR_GOLDENROD1
SI_IR_2L_LIGHTRED1	SI_IR_GRAPEJUICE1



SINGLE LAYER INFRARED COLOR SELECTIONS THE FILL COLOR FOR THE TEXT FRAME OPERATION):	
SI_IR_2L_LIGHTYELLOW1	SI_IR_JASMINEGREEN1
SI IR 2L ORANGE1	SI IR KNIT1
TWO LAYER INFRARED COLOR SELECTIONS (THE FILL COLOR FOR THE TEXT FRAME OPERATION):	
SI_IR_2L_BLUEPURPLE1	SI_IR_2L_LIGHTBROWN1
SI_IR_2L_DARKPINK1	SI_IR_2L_LIGHTGRAY1
SI_IR_2L_GRAYBROWN1	SI_IR_2L_LIGHTOLIVE1
SI_IR_2L_GREENYELLOW1	SI_IR_2L_PURPLE1
SI_IR_2L_LIGHTCYAN1	SI_IR_2L_LIGHTRED1
SI_IR_2L_LIGHTGRAY21	SI_IR_2L_LIGHTYELLOW1
SI_IR_2L_LIGHTGREEN1	SI_IR_2L_ORANGE1
SI_IR_2L_LIGHTMAGENTA1	SI_IR_2L_PALEBLUE1
SI IR 2L LIGHTPURPLE21	SI IR 2L LIGHTPURPLE1
TWO LAYER IR VISIBLE TEXT COLOR:	
SI_IR_Black	
SI_IR_Blue	
SI_IR_Green	
SI_IR_Red	



Note: Do not change the name or the color settings on these color definitions. The colors listed give an approximation of the actual color pattern that will be printed on the print device only

## DESIGNING DOCUMENTS WITH INFRARED COLOR

The method by which the Infrared color application is created and rendered makes it difficult to reproduce or alter electronically or physically, and if designed well, makes it difficult for a user to even realize that information is embedded in textured color patterns. Another benefit of Infrared colors is that the decoding of the hidden information can be accomplished with a standard web-camera fitted with IR illumination for night vision. Many inexpensive webcam models exist, which will illuminate the object with IR light, capture the resulting reflected light, and digitally convert the raw captured video into a grayscale video stream viewable on a standard computer.

Infrared colors are used to embed a text string into a textured color pattern in such a way that the text is hidden under normal viewing light, and visible only under infrared (IR) illumination. It is quite similar to FluorescentMark color technology, the main difference is that IR illumination is required instead of UV illumination in order to reveal the hidden text.

In a Two-layer Infrared color application an extra layer of information using Overprint can be placed on top of the existing IR text. The overprinted text uses solid colors and is visible under normal illumination but will disappear under IR illumination revealing the underlying IR text. This has the advantage of being able to add another set of variable data as well as extra level of distraction to hide the IR data.

In a Two-layer Infrared color application the designer can add another variable string of text as an overprint. The examples below are a race ticket with a solid area where the ticket number verifier is encoded with Infrared colors. A variable text that is not security sensitive in this example, the Section, Row, and Seat numbers is printed as overprint solid color text. Under normal illumination only the overprint text is visible. Under IR illumination the overprint text is not visible anymore and the Infrared color encoded text is revealed.



Also, note that Text is only one type of object that can be used with Infrared colors. There can be other applications such as inserting graphics or logos. As long as the right color set is used any type of information can be embedded as an Infrared color.

### Create a Single Layer IR Effect

Steps to create a Single Layer IR effect:

1. Ensure the SI\_IR\_ colors required for the application are loaded to the color swatches panel. Refer to [Using a Specialty Imaging color swatch](#), for a description of this process.
2. Draw a Text Box the size of the effect that will be created. For example, for the infrared effect to be ½ inch wide by 3 inches long, make sure to define the text box to be ½ inch wide by 3 inches long. This is the background size of the infrared effect.
3. With the text box selected, open the Swatches Panel and select the **SI\_IR\_ colorname**. Do not use an SI\_IR\_ 2L\_ colorname.
4. Select the **text tool**.
5. Select any **OTF** or **TTF font** available to InDesign, do NOT use any of the Specialty Imaging fonts. DFont formats are not supported in VDE. Set the font size.
6. Select **Paper** as the text color from the swatches panel. The color Paper must be the text color selected, selecting any other color will result in this effect failing at the print device.

7. Use the InDesign **align options** to center the text both horizontally and vertically within the text frame.
8. Enter the text using the keyboard or VDE to insert variable text objects.

### Create a Two Layer IR Effect

Steps to create a Two Layer IR effect:

1. Ensure the SI\_IR\_2L color names required for the application are loaded to the color swatches panel. Refer to [Using a Specialty Imaging color swatch](#), for a description of this process.
2. Draw a Text Box the size of the effect that will be created. For example, for the infrared effect to be ½ inch wide by 3 inches long, make sure to define the text box to be ½ inch wide by 3 inches long. This is background size of the infrared effect.
3. With the text box selected, open the **Swatches Panel** and select the **SI\_IR\_L2 colorname**. Do not use an SI\_IR\_colorname. This is a special IR color that will interact with a visible layer of text laid down in step 9 below.
4. Select the **text tool**.
5. Select any **OTF** or **TTF font** available to InDesign, do NOT use any of the Specialty Imaging fonts. DFont formats are not supported in VDE. Set the font size.
6. Select **Paper** as the text color from the swatches panel. The color Paper must be the text color selected, selecting any other color will result in this effect failing at the print device.
7. Use the InDesign **align options** to center the text both horizontally and vertically within the text frame.
8. Enter the text using the keyboard or VDE to insert variable text objects.
9. Next, create the text that will appear as the visible top text layer.
10. Create a **second text frame** the same size as the text frame created in step 2 above, use the same coordinates as it must overlay the first text box. Do not apply any fill to this text frame.
11. Select any **OTF** or **TTF font** available to InDesign, do NOT use any of the Specialty Imaging fonts. DFont formats are not supported in VDE. Set the font size.
12. Select a **font color** from the color swatches panel. One of these four colors must be selected SI\_IR\_Black, SI\_IR\_Blue, SI\_IR\_Red or SI\_IR\_Green. Selecting any other color will cause the effect to not render correctly at the print device.
13. Use InDesign to Group the two text frame objects.

## MicroText Font

MicroText fonts can be used on Xerox FFPS and EFI devices. Not supported on Highlight Color. Micro text refers to printing text strings at a point size smaller than 1pt. Typically, information in a string is repeated to avoid loss or readability due to fibers in the paper making a character unreadable. Using the Repeat Data Transform feature in VDE is an easy way to repeat a text string.

VDE will install a set of eight micro fonts, if the Specialty Imaging package is selected during the install process. These fonts will be listed in the InDesign font drop-down list. These fonts are only used to display the approximate size and color of the MicroText effect. To print Micro Text, download the fonts or contact your local Xerox representative. Refer to [Specialty Imaging and Barcode Font download](#) for more information about downloads.

A Swatch library containing Specialty Imaging Micro Text color names is installed to the InDesign Fonts folder when the Specialty Imaging option or the Complete option is selected during installation. Colors from this library need to be added to the InDesign Swatches panel. Refer to [Using a Specialty Imaging color swatch](#).

### USE THE EFFECT

To use the effect:

1. Once you have loaded the SI Micro Text colors to the InDesign Swatches panel, select one as your font color.
2. Select the **text tool**, then select the **SI\_Micro font family name** from the font drop-down list. Next, select the font style option. The available options are f6, f6-5, f7, f9, f6-5-Bold, f6-Bold, f7-Bold, and f9-Bold.
3. Next set the **InDesign Font Size option** to 1 point. No other font attributes should be selected and they will be ignored. In order to view the text on-screen, select a larger point size, such as 10 pts., to verify that the correct text is being placed in the application. However, the text size attribute must be reset to 1 point before the application is saved and exported. Failure to do this will result in unpredictable results.



Note: If necessary, increase the view magnification of the document to see the MicroText.

4. Draw a **text box**.
5. Insert the text insertion point in this box.
6. Enter the required text. This can include the insertion of static text or variable text inserted using VDE controls. The MicroText string is typically repeated several times in a single line.



Note: The Repeat Data Transform function can be used to repeat text strings X amount of times. This may be useful when you want to repeat a Micro Text string. Microtext requires a smooth media to print on. Excessive fiber in the paper can make some micro characters unreadable, this is why the repetition of text items is recommended. As with all Specialty Imaging applications, test the application to validate the effect meets the design specifications and print performance.

## MICROTEXT FONT LIMITATIONS AND REQUIREMENTS

Paper Requirements	Rough papers will increase defects. The Xerox Digital Color Elite Gloss families of paper products are recommended.
Text Color	Any solid color can be selected as the font color. Black, Cyan, Magenta and Yellow are recommended. Black is the only color supported on HLC devices.
Text Content	Text should be repeated or redundant. Text containing MicroText font should not be used for the single occurrence of any non-redundant item, such as license plate or credit card numbers. By repeating information the readability of the text is improved.
Text Size	No matter what the size of the selected Microtext font is, the text size in the document must be set to 1 point.
Font	Upper-case, limited character set. Contains only these characters lower case characters have been mapped to upper case for printing purposes: A through Z, 0 through 9, ! @ # \$ % & * ( ) - _ = + [ ] ; : ' " , . ? / € ¥, and Cyrillic characters.
Font size	MUST be set to 1 point No other attributes such as bold or italic should be set. Failure to do this will result in unpredictable results.
DFEs	FFPS and EFI. The high data content of text consisting of MicroText font can lead to a DFE slow-down.
Scale	Any change in scale will destroy the font and is strongly discouraged.
Rotation	Any rotation, other than multiples of 90°, has a high likelihood of destroying the font. Rotation is strongly discouraged.

Text applications using MicroText font are implemented within VIPP® using a PostScript font. This font is not scalable different sizes are actually created by using different fonts and cannot be rotated, except for integer multiples of 90°. The MicroText font supports the most common character set but is restricted to Upper Case letters, numbers and few symbols. Special characters, such as ß, Ä, Š, ©, Æ, and the like, are not included in the set. Lower case characters are mapped to upper case characters for printing purposes.

The high resolution of MicroText font applications is directly impacted by the paper quality or coating as can be seen below.



It is important to know that in a MicroText font application, not all characters might be individually readable at all locations see S in the first ENSEMBLE and that non-redundant text license plates, user IDs, and so on should be

repeated.

## MICROTEXT FONT TABLE

The available MicroText fonts are:

FONT NAMES	FONT STYLE
SI micro	f6, f6-Bold, f6-5, f6-5-Bold, f7, f7-Bold, f9, f9-Bold

## DESIGNING DOCUMENTS WITH MICROTEXT FONTS

MicroText font text refers to the printing of variable data strings using font sizes below 1 point. The size of MicroText fonts makes them difficult to reproduce or alter electronically or physically, and if designed well, makes it difficult for a user to even realize that information is embedded in the document. A simple loupe or magnifier can be used to make the MicroText font visible.

In the concert ticket example below, several unique text and symbol strings are present on the ticket. MicroText font can be used to repeat these unique identifiers in a non-obvious way. One approach is to replace or augment the lines in the ticket design with this variable data. It is important to note, that conventional microprinting might have a fixed string as part of the design, but that VIPP® MicroText fonts are capable of personalizing the microprinting with the unique ticket identifiers.



Below, a portion of the ticket is enlarged to show the MicroText font on the ticket:

PM WED APR 25

Below, a different line in the ticket design is enlarged to show a different part of the ticket ID printed in MicroText font.

ENSEMBLE J C W ENSEMBLE

Applications using MicroText font can include coupons, checks, college grade reports, and so on.

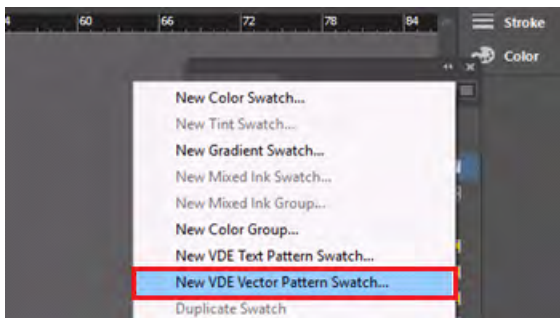
## SI Correlation Mark Effect CR Key Generation

The Correlation Mark feature prints variable text strings so that the content is not visible unless it is superimposed by a key transparency. Ensure that you provide the key, printed on a transparency, to all end users that need to read the data. The following steps describe how to create the VDE Correlation Mark key.

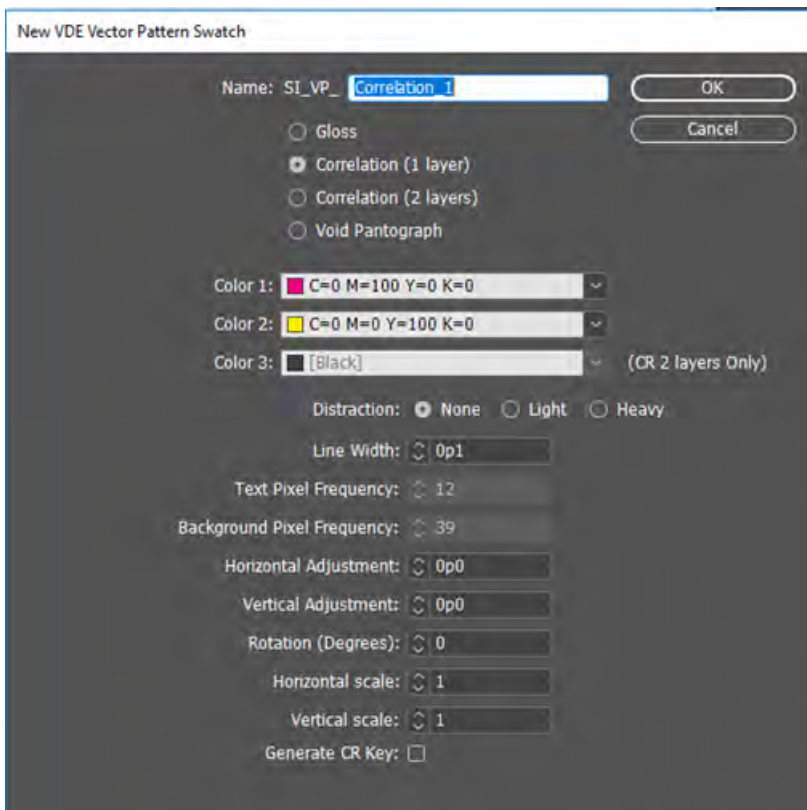
### GENERATE CR KEY

To generate CR Key Swatch:

1. Select the New VDE Vector Pattern Swatch menu from Swatch Panel.



In the existing New VDE Vector Pattern Swatch UI, a new Checkbox named Generate CR Key has been added, which will be enabled only if selected swatches are of types Correlation (1 layer) or Correlation (2 layers).



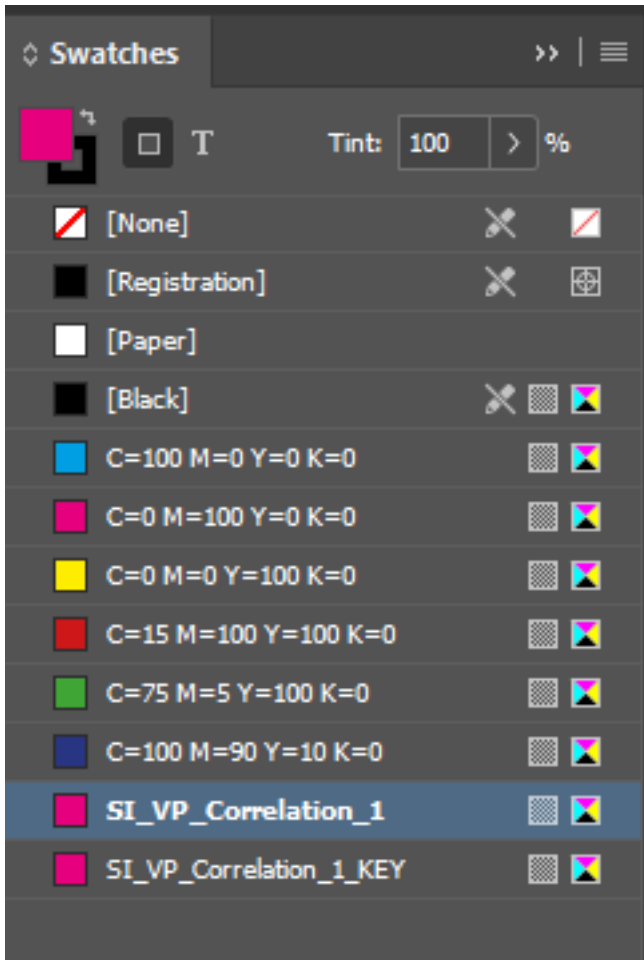
2. Enter a meaningful name for the Correlation Swatch, for example, Correlation\_1.
3. Select Correlation (1 layer) Radio Button.

4. Provide valid values for all entities.
5. Select Generate CR Key checkbox

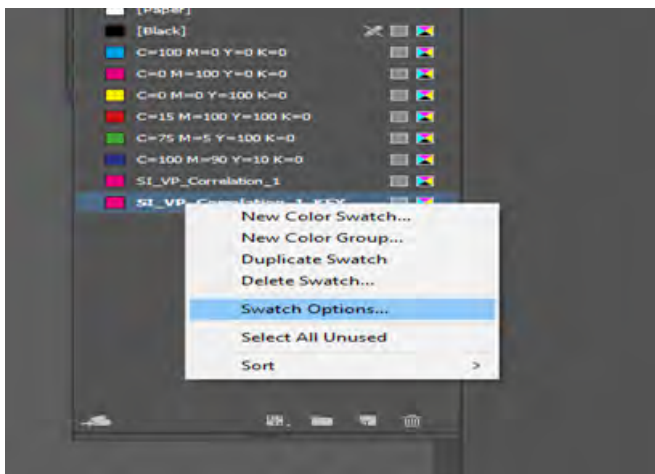


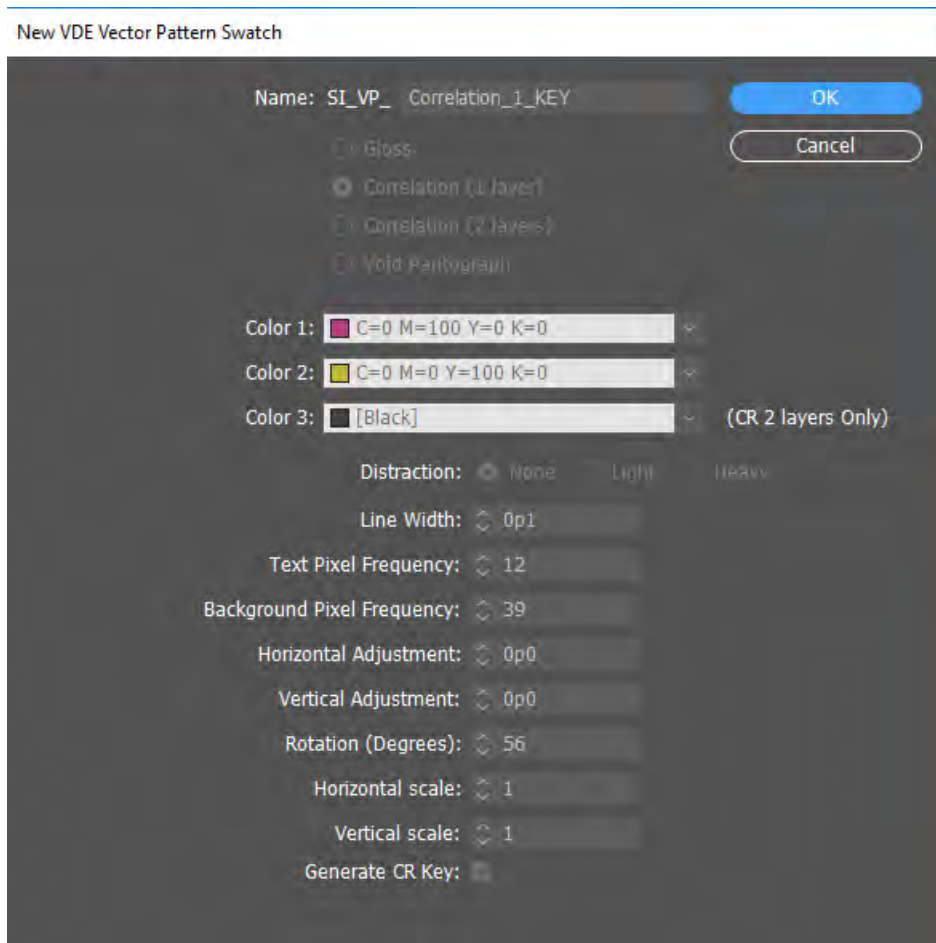
6. Click OK Button.


If User selects Generate CR Key checkbox and clicks OK, corresponding Key will be generated.



By selecting Swatch Options for Swatch Key, for example SI\_VP\_Correlation\_1\_KEY, all the entities will be disabled as shown below:

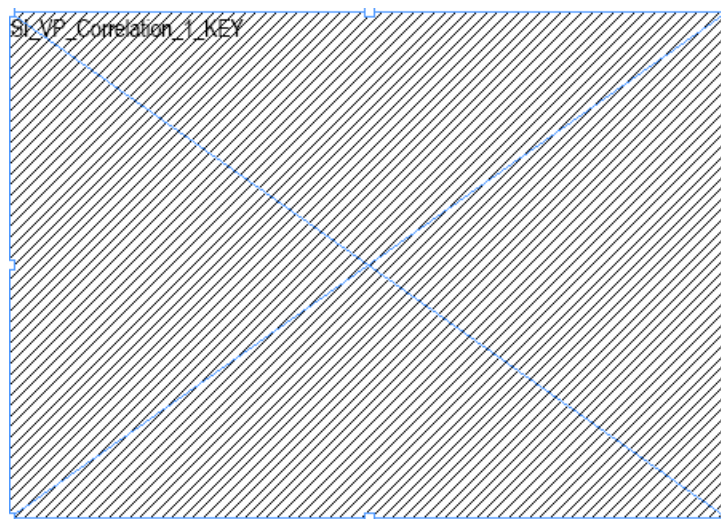




 Note: Any value edited in Correlation switch will automatically update its corresponding CR Key as well.

## APPLYING A KEY SWITCH TO A FRAME

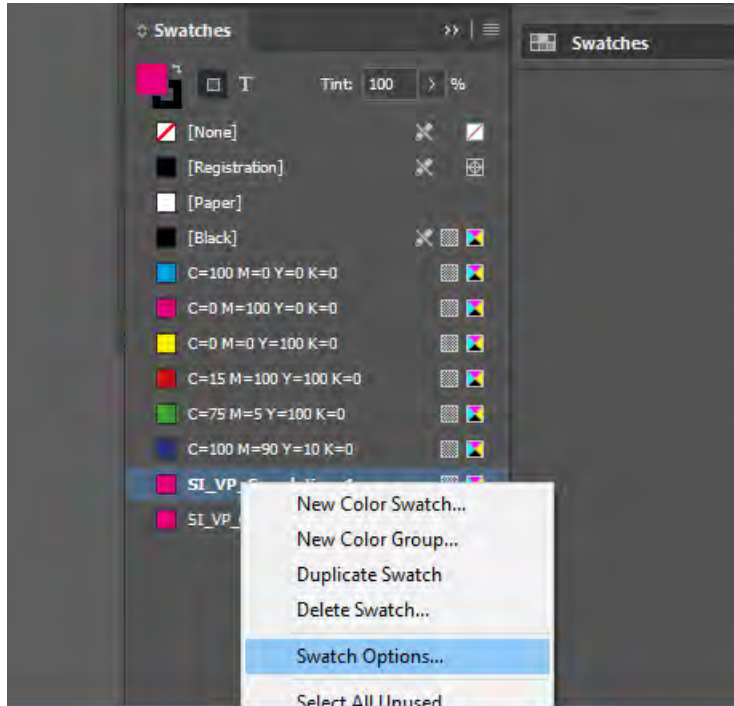
You can apply a key switch to a frame, as shown in the following figure.



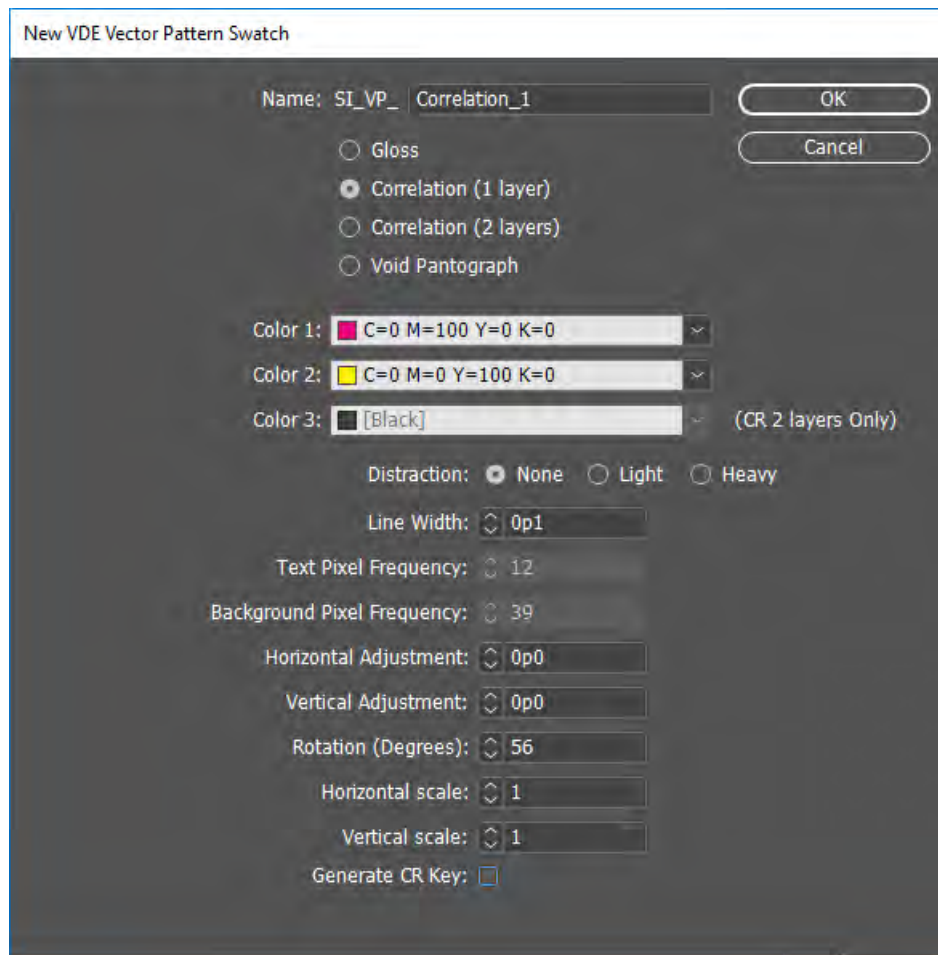
The key swatch appears in black and white, and the key swatch name appears as a preview.

## DELETING A CR KEY

In the Swatches panel, click the correlation swatch, then select **Swatch options....**



If the Generate CR Key check box is not selected, click **OK**. The corresponding CR Key is deleted.

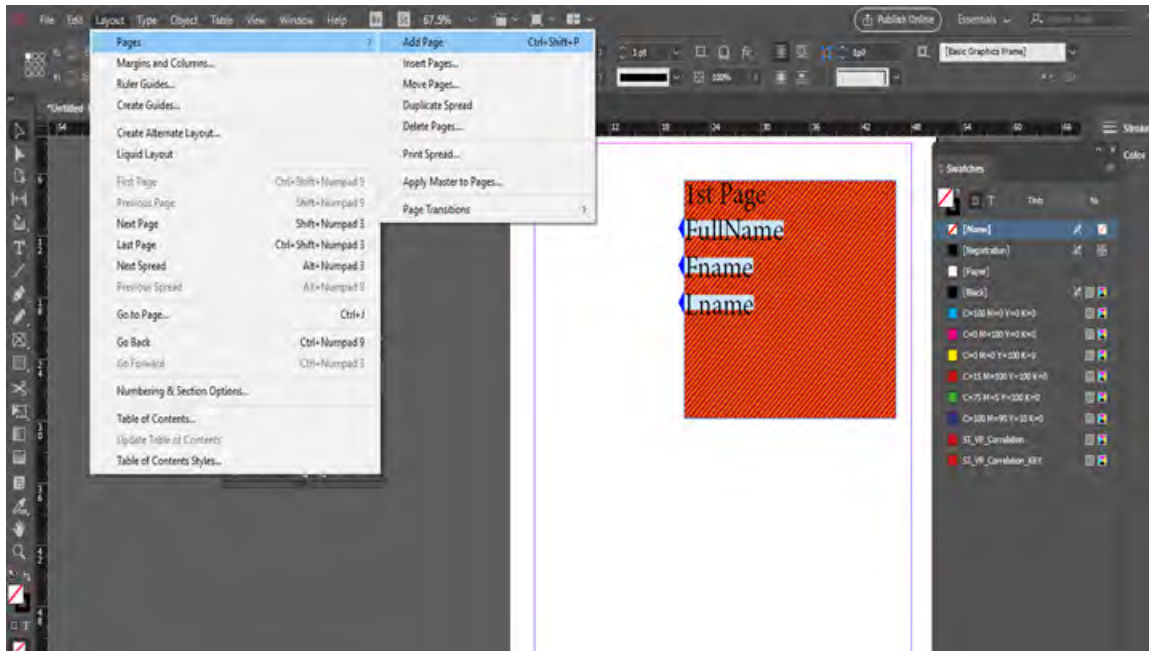


## DESIGNING A DOCUMENT WITH BOTH SI EFFECT AND KEY

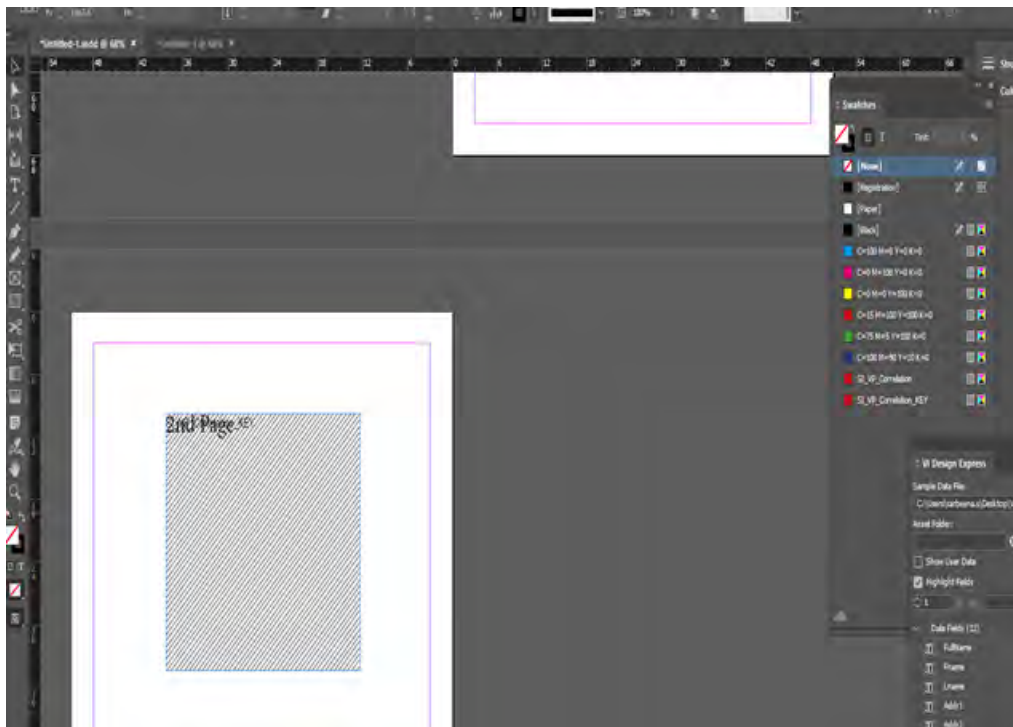
Usually, the CR keys are printed on a transparent sheet, while the job is printed on other media. To design a document, you can apply both the SI effect or correlation and the CR key of the document. When the document exports, two PDF files or two VPC files are generated.

To create both the design and key in the same document:

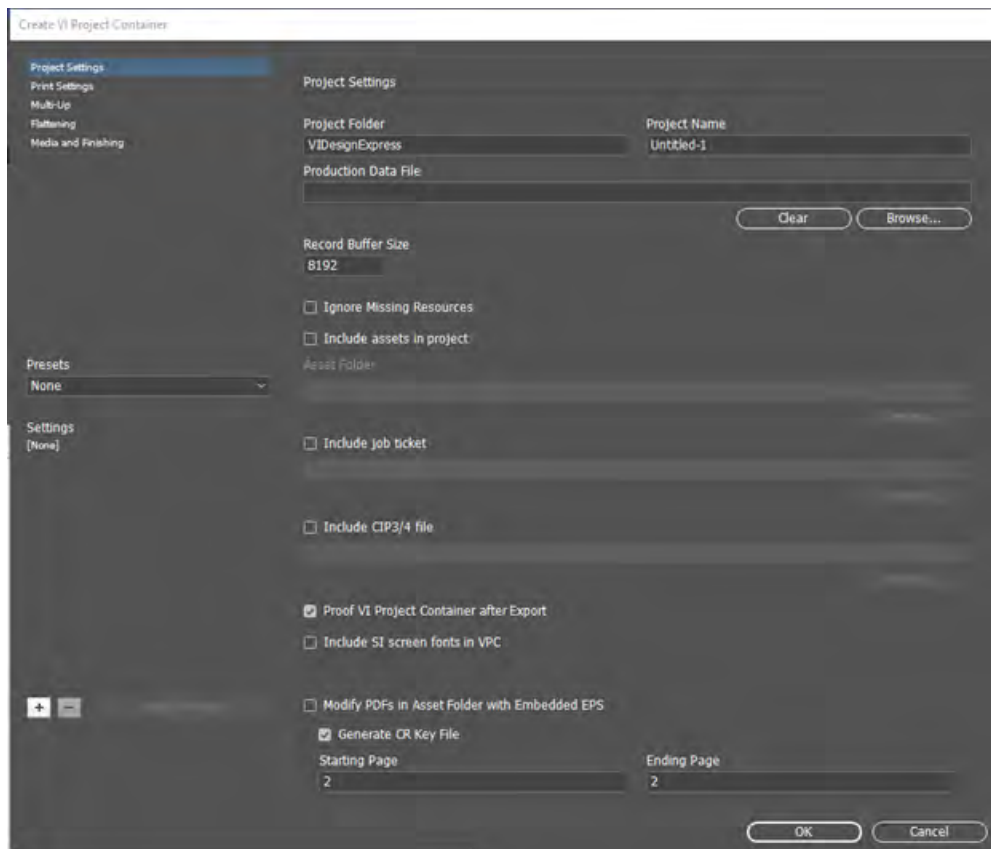
After the first page of the document, you can add multiple pages, as shown in the following figure:



In the following example, a key switch is added to the second page:



In the export panel of the VPC or PDF, a new check box named Generate CR Key File was added, where you can preview the document and set the starting and ending page numbers. The ending page is the page where CR key is designed in the design document, which generates two different files or one for the key and another for the SI effect. As a result, CR key allows you to have both SI effect and key designed in the same document, as shown in the following figure:



If the document has a key swatch that is applied onto the frame, the Generate CR Key File check box is enabled in the export panel for both VPC and PDF.

Click **OK**. Two VPC or two PDF files are generated, one for the SI effect, and one for the key.



Note: You cannot design both the SI effect and key on the same page.



# Hints and Tips

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This section describes how to use various VDE features. The chapter is a tutorial describing how to create a simple ID Card InDesign VDE document. Each section:

- describes a feature
- shows how to apply the feature to a document
- adds a new VDE feature to the document design

Prior to creating the InDesign VDE document, retrieve the sample data file and assets that will be used in the document described here. To review the information, browse the VDE installation (.zip or .dmg) and copy the folder called VPPEXample to the computer's desktop. This folder contains the data file VPPEXample.csv, and all other assets used in the examples described in this chapter.

Below is a sample of the first few records from VPPEXample.csv. All examples in this chapter use this database file, which is reproduced below.

```
FullName,Fname,Lname,Addr1,Addr2,City,State,Zip,Dept,EmployID,ImageNo,Telephone
David Kirk,david,kirk,701 S. Aviation Blvd,Suite 23,El Segundo,ca,90245,Sales,2-
98734,98734.jpg,3105555555
Jenni Smith,Jenni,Smith,237 Webster Street,,Webster, NY,19827,Marketing,1-
64733,64733.jpg,5855558963
Ed Brice,ed,BRICE,12 Water Dr,Apt 3,Las Vegas,NV,73463,Admin,2-38892,38892.jpg,3745559898
Mary Hahn,mary,HAHN,389 Western Ave,,Miami,fl,64733,Sales,1-96676,96676.jpg,7655558976
```



Note: *How To* videos are available from the [www.xerox.com/support](http://www.xerox.com/support) page, search for VIPP, then select **Video**. Videos can be used as standalone videos to learn how a specific function works, for example, the Xerox Specialty Inks videos, or, go through the Hints and Tips series, that will provide the same overview as this chapter.

## Getting started

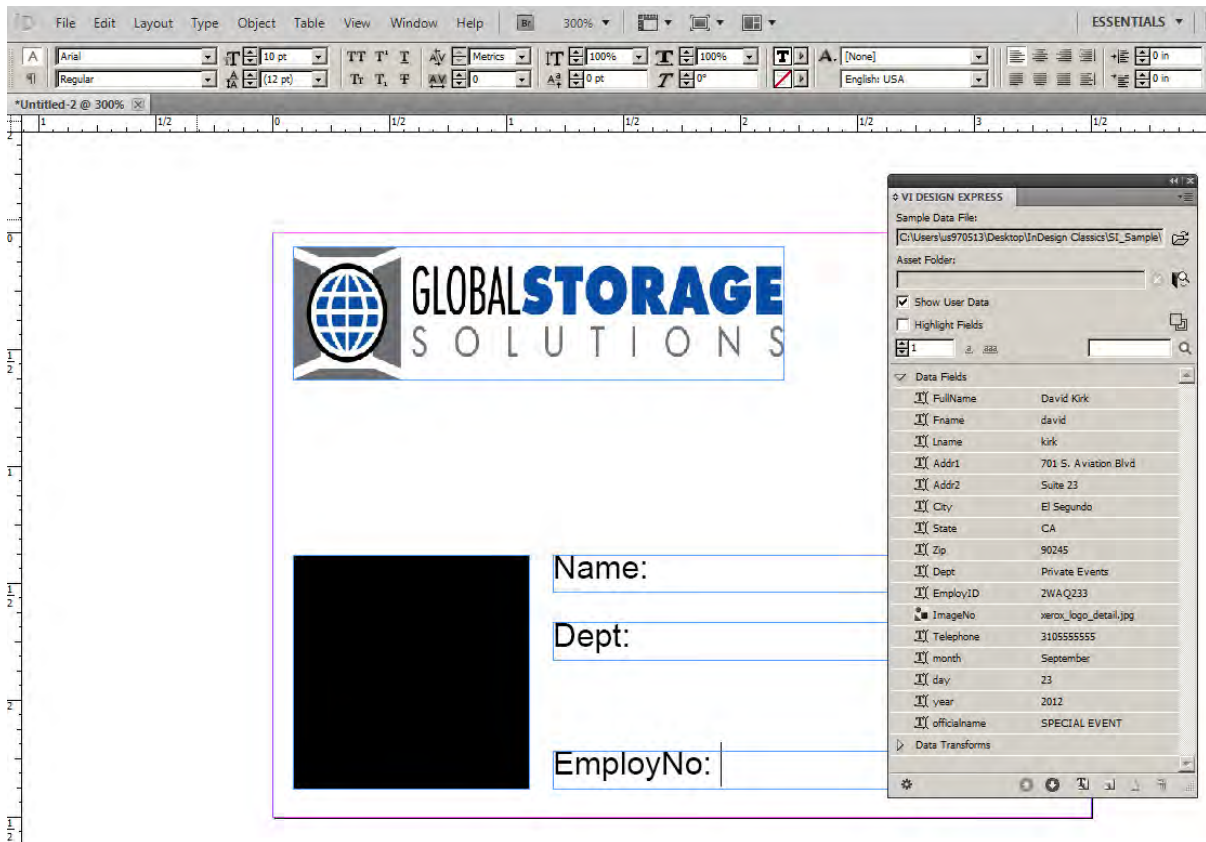
This section describes how to build the InDesign file that will be used in the examples given in these sections:

- [Using Suppress Variable Blank Lines](#)
  - [Using Data Transforms to correct case issues](#)
  - [Using Data Transforms to sub-divide data base fields](#)
  - [Using Data Transforms to concatenate two strings](#)
  - [Using Data Transform to format numeric data](#)
  - [Create a Rule to insert text](#)
1. Open InDesign.
  2. Create a new document.
    - a. Select **File > New > Document**.
    - b. Set the Page Size to **Custom** and change the width to **3.5** inches and Height to **2.5** inches.
    - c. Set the Margins to **0** inches.
    - d. Select **OK**.
  3. Place some static elements on the document.
    - a. Draw a graphic box (approximately 3 inches long, % inches in height) and position in the top left of the document.
    - b. Go to **File > Place** and browse to the folder VPPEExample.
    - c. Select the file **GlobalStorage\_logo-final.jpg**.
    - d. Adjust the frame to fit the true size of the image as necessary.
  4. Draw a black box 1 inch square, position it about % inch from the left and bottom edge of the document. Fill the square using the color Black from the Swatches panel.
  5. Place some static text.
    - a. Draw a text box level with the top of the black box, starting about and extending to the right of the border of the document. (Leave about 1/8 inch between the black box and the start of the text box).
    - b. With the text insertion cursor flashing, select the **font** and **font attributes**.
    - c. Select a **font** such as Arial from the font pull-down list, set the size to 10 points.
    - d. Type **Name:** in the text box.
    - e. Adjust the text box to fit the height of the selected font.
    - f. Repeat this twice more and enter the strings:  
**Dept:** in the second text box,  
**EmployNo:** in the third text box.
    - g. Align the text strings vertically with the first string.



6. Save the document as **VDEExample.indd**.

The document should look something like this:



7. The next step is to add a name and address block. To do this, open the VDE plug-in if not already open, then:
- Under the Windows option on the main menu, select **VI Design Express** to open the VDE panel.
  - Select the **Browse folder** option to the right of the Data File option, browse to the folder VPPEExample on the computer desktop, and select the data file **VPPEExample.csv**.
  - Accept the defaults by clicking **OK**. This will populate the VDE plug-in with a list of fields from the data base file. The field called ImageNo is a graphic file, so, if necessary, change the field type by right clicking on the **field** and selecting **Change Type**. Select **Graphic File** from the options presented.
  - Draw a text box large enough to contain a name and address block directly under the logo.
8. Use the VDE plug-in to enter data from the data file.
- Double-click **Fname** to insert the field **Fname** at the current cursor position.
  - Enter a space character using the keyboard, then double-click the **Lname** field to insert the **Lname** data.
  - Press **Enter** to move down one line.
  - Double-click the field called **Addr1**, then press **Enter** to move to the next line
  - Double-click the field called **Addr2**, then press **Enter** to move to the next line
  - Double-click the **City** field, enter a comma and a space, then double-click the **State** field, enter a space character, then double-click the **Zip** field.

- g. Check the box labeled **Show User Data** to show the actual data from the database fields.
- h. Blank lines in the name and address box are discussed in [Using Suppress Variable Blank Lines](#).

The document should look something like this:

The screenshot shows a form titled "GLOBALSTORA SOLUTIONS" with a globe icon. Below the title, there is a large text box containing the following text: "david kirk", "701 S. Aviation Blvd", "Suite 23", and "El Segundo, ca 90245". The text is displayed in a blue font. Below this text box, there is a black rectangular area. To the right of the black area, there are two input fields labeled "Name:" and "Dept:". The "Name:" field is empty, and the "Dept:" field is empty.

Notice that there are some immediate issues to deal with. The issues include, Upper and lower case issues and blank lines. Correction of casing issues is discussed in [Using Data Transforms to correct case issues](#). Blank lines in the text box are discussed in [Using Suppress Variable Blank Lines](#).

- 9. Save the document.

## Using Suppress Variable Blank Lines

Variable blank line suppression is used to suppress blank lines that may occur when variable fields are empty. This is common in name and address blocks that use multiple address lines. If these lines are not suppressed blank lines can appear in the printed documents.

The database file, VPPEExample.csv, contains typical name and address fields in the header. The data in each record is typical of what may occur in the real world. Some records have data in all fields, other records may have empty fields. The example below will be used to create a simple application that will print a name and address block suppressing empty variable lines.

If the first two records from the database file are used without suppressing the empty lines, a blank line in the address block for record two will appear, because the field, Addr2, is empty.

<b>Record 1:</b>	david kirk	<b>Record 2:</b>	Jenni Smith
	701 S. Aviation Blvd		237 Webster Street
	Suite 23		Webster, NY 19827
	El Segundo, CA 90245		

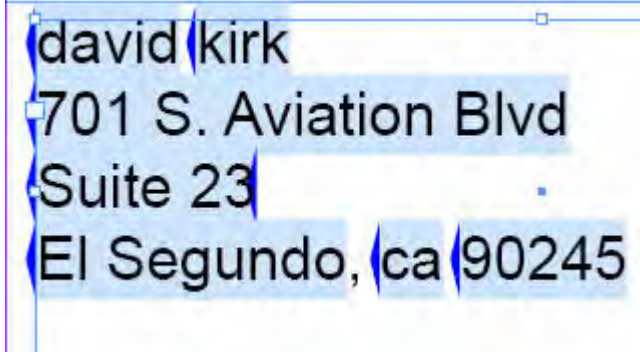
With InDesign open to the file created in the previous section, use the record counter in the VDE panel and click up through the four records. Notice that a blank line in the name and address block can be found, this because the field Addr2 is empty. The blank lines need to be suppressed. In the steps below, the Suppress Blank Variable Lines option in the VDE Text Fitting options will be used to suppress the blank line caused by an empty variable field.

1. Open **VPPEExample.indd** and the VDE panel, if not already open.
2. Place the text cursor in the name and address block.
3. Right-click and select the **VDE Text Fitting** option.
4. Check the **Suppress Blank Variable Lines** option.

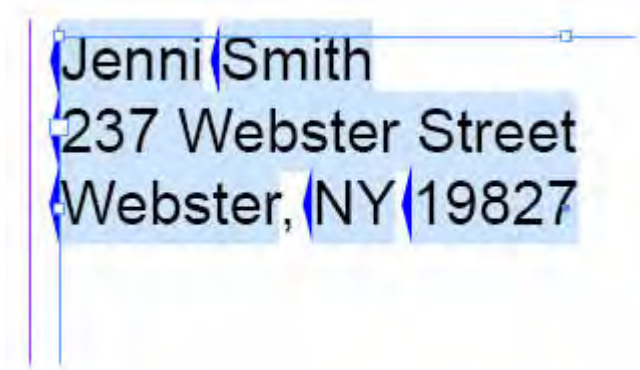


Note: A space character is a valid character and thus, if in an otherwise blank line, the line will not be considered empty.

5. Select the **Enable text fitting** option, then click **Fit in width** and **OK**. Data that exceeds the column width will automatically be adjusted to fit the width of the text frame.



Record 2:




6. With the **Suppress Blank Variable Lines** option selected, scroll through the data records to see how that option works.
7. Save the document.

## Using Data Transforms to correct case issues

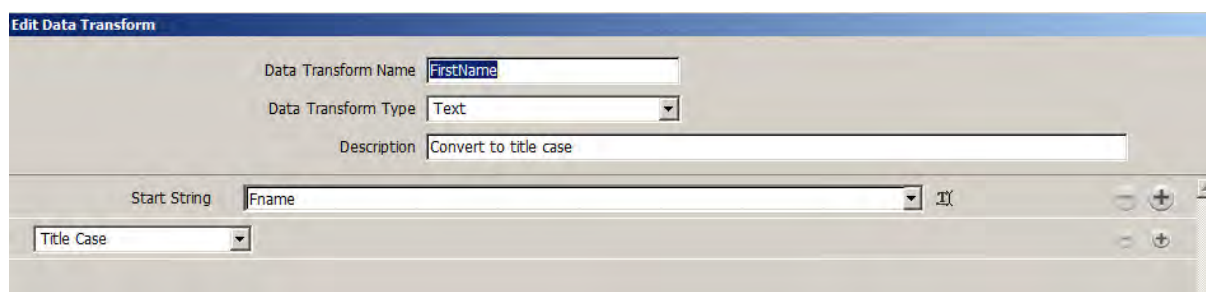
It is often necessary to modify the case of the data. VDE supports the following case transforms:


<b>Upper Case</b>	Used to transform any string into all upper case characters.
<b>Lower Case</b>	Used to transform the text string to all lower case characters.
<b>Title Case</b>	Used to change the first character of a text string into upper case and all other characters to lower case any character after a space character is converted to upper case.


In this example, VPPEExample.indd is modified to use Title case transforms to correct the case of the characters in the Fname and Lname fields in the address block. To perform this task, a Data Transform object will be used.

1. Open **VPPEExample.indd**.
2. Open the VDE plug-in if not already open.  
In the next steps three Data Transform Rules will be created: Two Title case transforms for Fname and Lname, and an Upper Case transform for State.
3. To create the Title case transform, click the Data Transform icon  on the VDE panel.  
The Create Data Transform panel opens.
  - a. Assign a Data Transform Name that is meaningful, in this case enter **Firstname**.
  - b. Leave the Data Transform Type as Text.
  - c. Select the database field **Fname** as the Start String.
  - d. Select **Title Case** as the action.

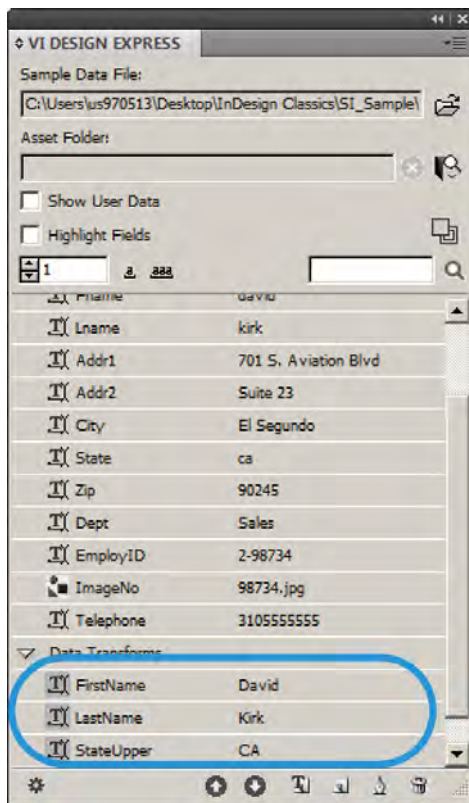
The Data Transform Rule should look like this:



4. Click **OK** to save the Data Transform Rule.
5. Create the second Title case transform.
  - a. Click the Data Transform icon . The Create Data Transform panel opens.
  - b. Assign a Data Transform Name, in this case enter **Lastname**.
  - c. Leave the Data Transform Type as **Text**.
  - d. Select the database field **Lname** as the Start String.

- e. Select **Title Case** as the action.
  - f. Click **OK** to save the transform Rule.
6. Create an Upper Case transform Rule for the State field.
    - a. Click the Data Transform icon  on the VDE panel to create the Upper Case transform for the State field. The Create Data Transform panel opens.
    - b. Assign a Data Transform Name that is meaningful, in this case enter **StateUpper**.
    - c. Leave the Data Transform Type as **Text**.
    - d. Select the database field **State** as the Start String.
    - e. Select **Upper Case** as the action.
    - f. Click **OK** to save the transform Rule.

Three new objects are placed on the VDE Panel, as shown below:

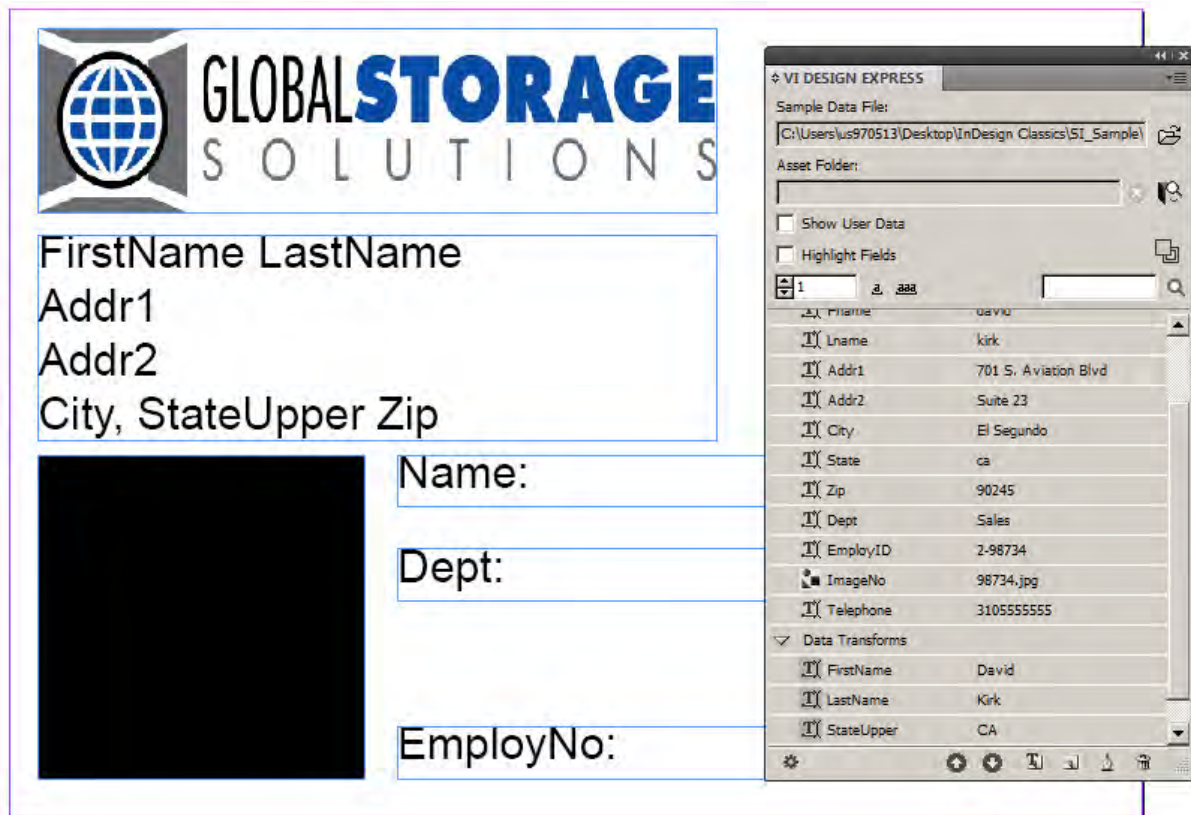


7. Use these new objects in the name and address block to correct the case issue illustrated.
  - a. Make sure record one is displayed in the document the VDE record counter should be 1.
  - b. Uncheck the **Show User Data** check-box, this will display the field names in the document.
  - c. Select the **text tool** and highlight the **Fname** field by double-clicking the **Fname** field.
  - d. Double-click the **Firstname Data Transform** object in the VDE panel to replace Fname with Firstname in the name and address block.
  - e. Select the **text tool** and highlight the **Lname** field by double-clicking the **Lname** field.



- f. Double-click the **Lastname Data Transform** object in the VDE panel to replace Lname with Lastname in the name and address block.
- g. Select the **text tool** and highlight the **State** field by double-clicking the **State** field.
- h. Double-click the **StateUpper Data Transform** object in the VDE panel to replace State with StateUpper in the name and address block.

The name and address block should look like this:



8. Select the **Show User Data** check-box to scroll through the data base records and verify that the case issues with FName, Lname and State have been resolved.
9. Save the document.

## Using Data Transforms to sub-divide data base fields

At times data fields must be divided into individual sub fields that can then be used in the document. For example, in the database file shown below, the first field, FullName contains both the first and the last name.

FullName, FName, Lname, Addr1, Addr2, City, State, Zip, Dept, EmployID, ImageNo,  
Telephone David Kirk, david, kirk, 701 S. Aviation Blvd, Suite 23, El Segundo, ca, 90245,  
Sales, 2- 98734, 98734.jpg, 3105555555


Jenni Smith, Jenni, Smith, 237 Webster Street, , Webster, NY, 19827, Marketing, 1-  
64733, 64733.jpg, 5855558963

Ed Brice, ed, BRICE, 12 Water Dr, Apt 3, Las Vegas, NV, 73463, Admin, 2-38892, 38892.  
jpg, 3745559898 Mary Hahn, mary, HAHn, 389 Western Ave, , Miami, fl, 64733, Sales, 1-  
96676, 96676.jpg, 7655558976

If this is the only field in the database containing name information, it can be broken apart so that the first name field can be used as a separate field. In the document being created in these examples, these fields are already separated, but for demonstration purposes the goal is to use the Data Transform, Substring by Index, to break the field, FullName, into two separate fields that can be placed into the document.

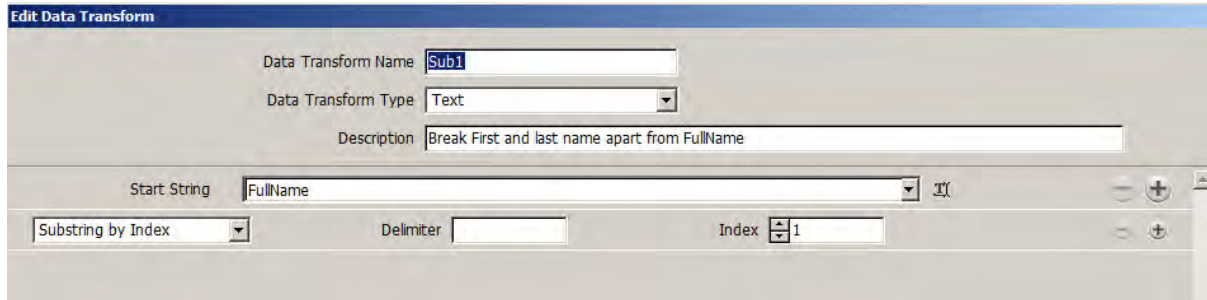
There are two Substring actions available in VDE, Substring by Position, and Substring by Index. For data that is consistent in characters or does not have built in delimiters, such as a numeric string, Substring by Position can be used to extract data by specifying the start position and the length (number of characters to capture). However, for fields that contain data that can be of a variable length, such as people's names, the Data Transform, Substring by Index, is used. To use this Data Transform, the data field to be split must have a character that can be used as a delimiter. For example, in a phone number such as 310-555-5555, the dash character can be used as a delimiter, or the space character in the field, FullName can be used as a delimiter. Substring by Index will be used to sub-divide the names, in the field FullName, into two sub fields that can be placed into the document.


In this example, two Substring by Index Data Transforms will be created. One will contain the characters to the left of the space character or index 1 while the other will contain the data to the right of the space character or index 2.

1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. Click the **Create Data Transform** icon  on the VDE panel.  
When the next panel appears:
  - a. Enter a **name** for the Data Transform, use **Sub1**.
  - b. Leave the type set to **Text**.
  - c. Select the field, **FullName**, as the Start String.
  - d. Select **Substring by Index** as the action.
  - e. Delete the **default dash (-)** character as the delimiter character, and enter a **single space** character (press the keyboard space bar once).
  - f. For this first sub field, select **Index 1**. Index 1 will result in a sub-field containing all characters prior to the first instance of the space character, in this case, the first name.

The Data Transform object should look like this:





3. Click **OK** to save the Data Transform.
4. Create a **Data Transform object** for the second string, this will be index 2 and will capture all data after the first space character. If the FullName field contained many elements separated by space characters, any of the sub fields can be collected by specifying the correct index value.
  - a. Click the **Create Data Transform** icon  in VDE.
  - b. Enter a **name** for the Data Transform, use **Sub2**.
  - c. Leave the type set to **Text**.
  - d. Select the field **FullName** as the Start String
  - e. Select **Substring by Index** as the action.
  - f. Delete the **default dash (-)** character as the delimiter character, and enter a **single space** character (hit the keyboard space bar once).
  - g. For the second sub field, select **Index 2**. Index 2 will result in a sub-field containing all characters after the first instance of the space character, in this case the last name.
5. Click **OK** to save the Data Transform.
6. Use these new fields, Sub1 and Sub2, to place the first and last name in the ID Card document being created.
  - a. Click the **InDesign Text tool** and click the cursor in the **text block** containing the text *Name*.
  - b. Double-click the object, **Sub1**, in the VDE panel to insert the substring for first name into the text block.
  - c. Add a **space character**, then double-click the **Sub2 object** to insert the substring containing the last name information.
7. Click the text cursor in the **text box** containing the text *Dept.*. Double-click the field **Dept** in the VDE panel to insert the department information into this text box.

- Click the cursor in the **text box** containing the text EmployNo. Double-click the field **EmployID**.



- Scroll through the document to see the variable data change.
- Save the document.


## Using Data Transforms to concatenate two strings


There may be occasions when two or more strings must be concatenated. A typical example might be concatenating a string such as .jpg to a field containing employee ID numbers to create an image call based on an employee number. This example uses the Data Transform tool to do just that.

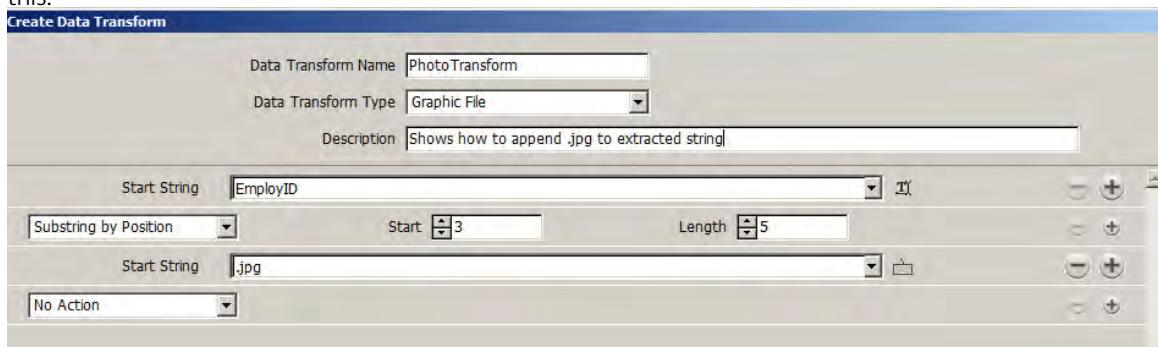
1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. In the database file there is a data field that contains the image name, which can be used to place the image data. To do that, draw a graphic frame 1 inch by 1 inch, slightly offset over the black box in the ID document. Then, with that graphic frame selected, double-click the field **ImageNo** in the VDE panel.

The ID card should look like this.



3. Scroll through the records to see the data and image change.  
This is one way to place the variable graphic, but in some cases the full image name may not be in the database file. In that case, the image can be placed using the EmployID field and the Substring by Position action to select characters based on a start position and length parameter, then concatenate the string .jpg to create the image call.
4. Select the **graphic image** that was just added in step 1 and delete it.
5. Click the **Create new Data Transform icon**  to open the Create Data Transform window.
  - a. Enter a **name** for the new Data Transform object. Use the name **PhotoTransform**.
  - b. Select **Graphic File** as the transform type, as it will be a graphic name when the transform is completed.
  - c. Select **EmployID** as the Start String.

- d. Select **Substring by Position**. In this particular situation Substring by Index could be used, with the dash character as the delimiter, and index 2 to get to the needed part of the data in EmployID. However, this is also a good place to use Substring by Position, as the data contained in this field is in a constant form, number of characters and format, and this option has not been used before. It is necessary to know what the data field looks like. For record 1, the EmployID field contains 2-98734, the characters starting in position 3 for a length of 5 must be captured.
  - e. Enter a **starting position of 3** and the **length of 5**, which results in capturing the string 98734 for record 1.
6. Concatenate the string **.jpg** to the captured string.
    - a. To add another element to the Data Transform, click the larger of the two **plus signs** . This will add an additional Data Transform element to the PhotoTransform object being built.
    - b. Enter the string **.jpg** in the Starting String.
    - c. Leave the Action option set at **No Action**. The Data Transform window for PhotoTransform should look like this:




The screenshot shows the 'Create Data Transform' dialog box for an object named 'PhotoTransform'. The 'Data Transform Type' is set to 'Graphic File'. The 'Description' field contains the text 'Shows how to append .jpg to extracted string'. Below this, there are three rows of configuration options, each with a 'Start String' field, a dropdown menu, and 'Start' and 'Length' numeric fields. The first row has 'EmployID' as the start string, 'Substring by Position' as the dropdown, 'Start' set to 3, and 'Length' set to 5. The second row has '.jpg' as the start string and 'No Action' as the dropdown. The third row is empty.

7. Select **OK** to save the Data Transform. This adds an object, PhotoTransform, as a graphic element, to the VDE panel.
8. To place this into the document, draw a graphic window 1 inch by 1 inch, slightly offset over the black box in the document.
  - a. With the graphic box highlighted, double-click the **PhotoTransform** object in the VDE panel. This will insert the correct image into the document.
  - b. Scroll through the records to see the text and graphic image change per record.
9. Save the document.

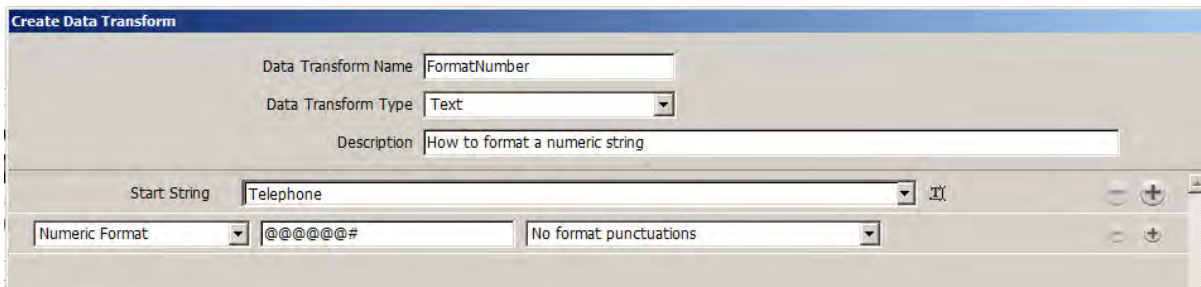
## Using Data Transform to format numeric data

Sometimes it may be necessary to format numeric strings. This can be as simple as adding commas, periods, or the currency symbol to the numeric string, or formatting a telephone number by inserting parenthesis and dash characters.

In the data base file there is a field called Telephone that, for record 1, contains the data 3105555555. This will be formatted to print as (310) 555-5555.

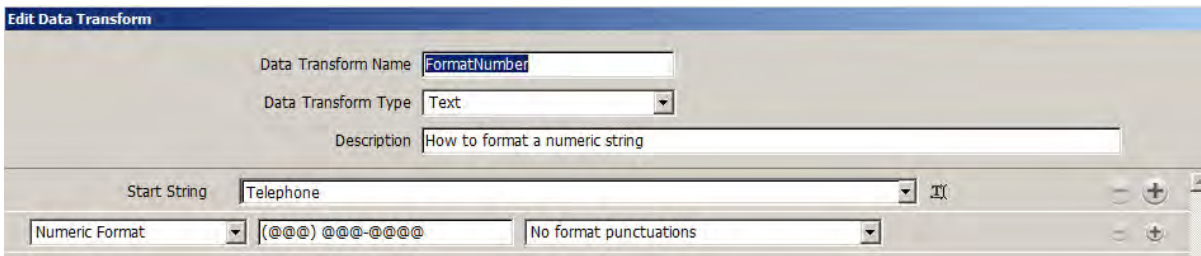
1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. Click the **Create a new Data Transform** icon  on the VDE panel.
  - a. Enter the name **FormatNumber** as the Data Transform Name.
  - b. Leave the Data Transform Type set to **Text**.
  - c. Select the field, **Telephone**, as the Start string.
  - d. Select **Numeric Format** as the Action to take

A screen similar to the one shown below is displayed.



3. Select **No format punctuations**. Refer to [User input masks](#) for information on the meaning and available options when using masking. When performing a currency masking operation it is necessary to select either **US** or **EU** formats for common thousands and decimal delimiters, as these are not the same in each area. Also choose whether or not to use decimal places.
4. The task is to format a telephone number, so delete the default string, @@@@-####, and replace it with: (###) ###-####.

The Data Transform window should look like this:



5. Select **OK** to place the Data Transform FormatNumber on the VDE panel.
6. To place this formatted telephone number on the document, draw a text box directly under the EmployNo: text box on the document.
  - a. Set font attributes as desired.



- b. Select the **text cursor** and insert a text insertion point in the text frame.
- c. Double-click the object **FormatNumber** to insert the formatted number.

The document should look like this:





- 7. Save the document.

## Create a Rule to Insert Text

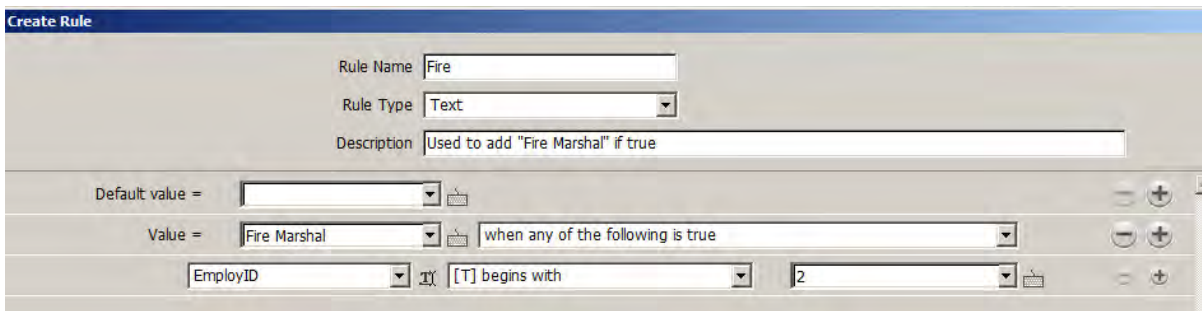
There may be times when it is necessary to enter variable data conditionally. For example, if this were a discount club card, printing a variable discount value dependent on a Premium, Executive or Club Card membership level may be desired. In this case, the database field can be tested for the club card membership level, then a text string such as 10%, 20% or 25% can be printed as a discount value. Insert the discount value using a text frame of its own; or insert it into the middle of an existing text frame. For example, *Get your XX discount*, where XX could be 10, 20 or 25%.

On the ID Card, the task is to add the words Fire Marshal to the ID Card when the EmployNo begins with 2.

A Rule must be created to do this.

1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. Click the **Create a new rule** icon  in the **VDE** Panel next to the data transform icon.
  - a. Enter **Fire** as the name for this Rule.
  - b. Select **Text** as the type of Rule.
  - c. Make the Default value blank, this will be the text that is printed if the Rule is false.
  - d. Click the **plus sign**  (to the right).
  - e. Enter **Fire Marshal** in the value field.
  - f. Select **when any of the following is true**.
  - g. Select **EmployID** as the field to test.
  - h. Select **[T] begins with** as the condition.
  - i. Enter **2** in the next field.

The Rule should look like this:

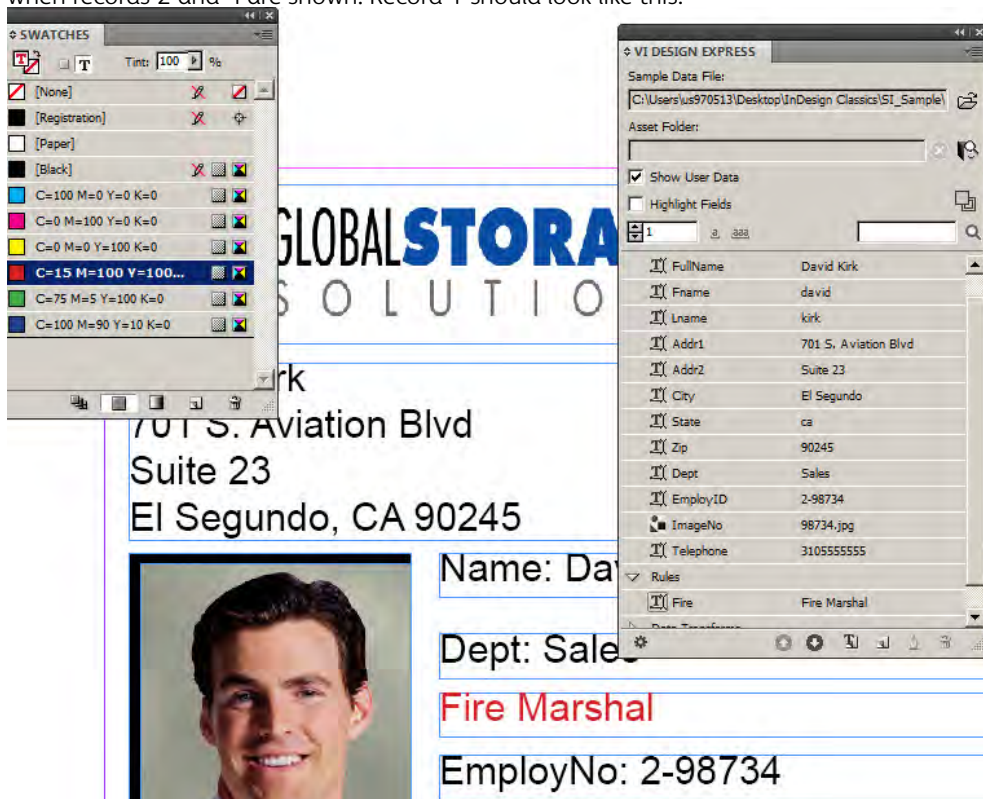


The screenshot shows the 'Create Rule' dialog box with the following settings:

- Rule Name:** Fire
- Rule Type:** Text
- Description:** Used to add "Fire Marshal" if true
- Default value =** (blank)
- Value =** Fire Marshal
- Condition:** when any of the following is true
- Field to test:** EmployID
- Condition:** [T] begins with
- Value:** 2

3. Click **OK** to save this Rule. It will appear as a Rule object in the VDE panel. To place this onto the document:
  - a. Draw a text box between the text boxes containing Dept and EmployeeNo.
  - b. Select a **text color** from the Swatches panel, select a red color.
  - c. With the Insert Text cursor flashing in the text box, highlight the object **Fire** in the VDE panel do not double-click.
  - d. Right click to display the **Rule options**.
4. Select **Insert Object: Fire**.

5. Scroll through the records. The text, Fire Marshal, will appear for records 1 and 3 only, and will not be visible when records 2 and 4 are shown. Record 1 should look like this:



6. Save the document.



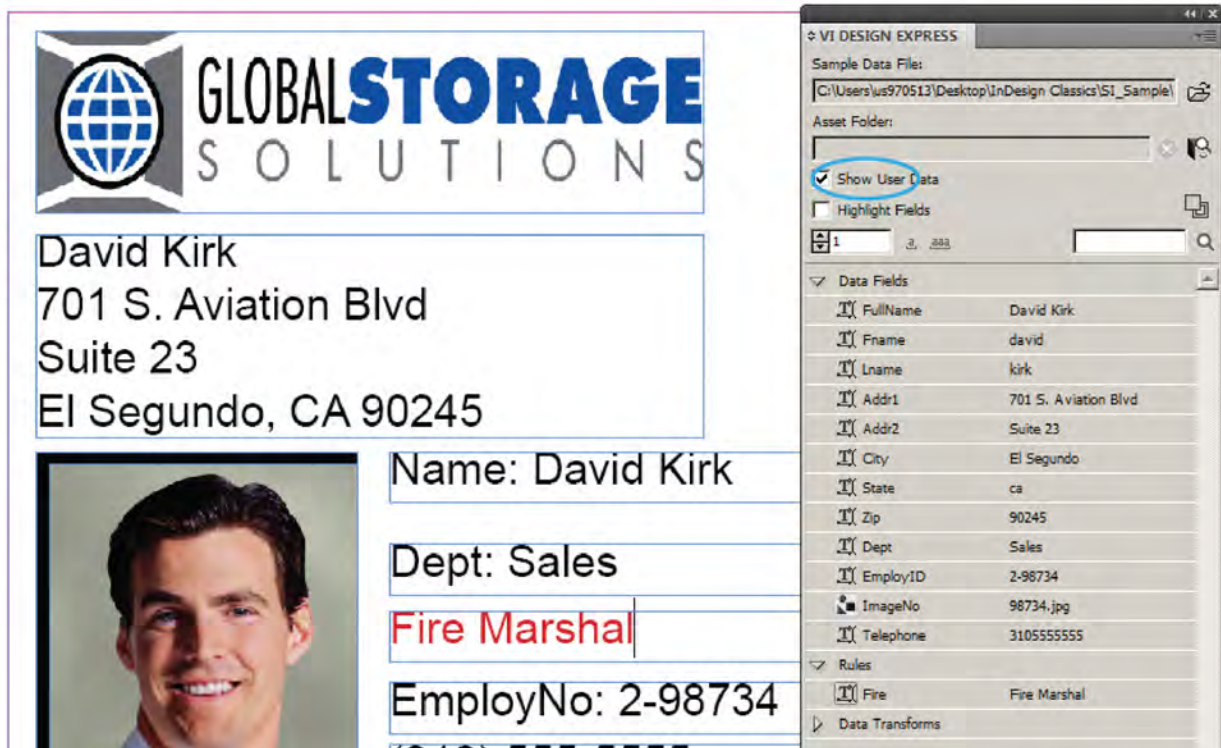
## Using Rules to control layer visibility

Layers are a powerful InDesign feature. Typically, when using a layer, the user will have one or more versions of that layer. Controlling layer visibility turning it on or off via the Visibility Rule allows you to select the correct layer version based on the evaluation of a field. This could be used to position important information on the page. For example, a State Logo and contact information could be placed in a layer. In the United States 50 versions of that layer would be created one for each state. A visibility rule could be used to place the correct layer version onto the page by evaluating the State information in the data base file. Another example may be language based, where you may have a single layer with 3 or more versions based on the languages you need to support. A visibility rule can be used to turn on the visibility of the correct language version by evaluating the language option in the data base file.

VDE supports the use of variable layers. Layers where the visibility of a layer version is turned on or off. Because of the Dynamic Document Construction used by VDE during export, VDE does have performance considerations when three or more separate visibility rules are used on any single page. Often you can get around this limitation by using Text or Graphic rules to control individual page objects. It is important to understand that one visibility rule that controls twenty or so versions of a layer does not cause performance issues. It is where you place three or more different Visibility Rules on a single page (no matter how few versions of each layer they control). Performance issues will show up as slow export time and large .vpc files. Again, to avoid this, design your document with only one or two visibility rules per page.

In the document we will generate two simple layers to demonstrate how to create Rules to control layer visibility. Although the layers used will be simple blocks of color, in a real application the layer could contain variable text and graphics that could change the whole look and feel of the document. There are two ways to create a visibility rule. The first method shown below would be used when you only have one or two versions of the layer. Using this method you need to generate a visibility rule for each version and apply it manually to the target layer. The second method, described after the first, uses the VPPlayerName option that allows you to attach a single visibility rule to multiple layer versions driven by a data field. This method is preferable when using many versions of a layer.

Before working with Layer Rules ensure that the **Show User Data** option is selected. Failure to do this will result in all layers showing all the time, making testing frustrating. Please make sure this option is selected before you proceed further.



1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. Create two new layers: Open the Layer panel and add a layer called **Green** and a layer called **Blue**.
3. Create a green background.
  - a. Make the Green layer the active layer.

- b. Draw a solid box, using a green color from the Swatches panel as the stroke and fill color.

The document should look like this:



- c. Move the Green layer below the Layer 1 layer by dragging it down in the Layer panel. This should position the green background below the graphics and text of the ID Card.
- d. Click the **eye icon** next to the Green layer in the Layer panel to turn off visibility.
4. Make a blue background.
  - a. Make the Blue layer the active layer.
  - b. Draw a solid box, using a blue color from the Swatches panel as the stroke and fill color.
  - c. Move the Blue layer below the Layer 1 layer by dragging it down in the Layer panel. This should position the blue background below the graphics and text of the ID Card.
  - d. Click the **eye icon** next to the blue layer in the Layer panel to turn off the visibility for that layer
5. Create a Visibility Rule for each of the two layers to turn the visibility on the default for the layer will be *off*- or not visible.
  - a. Click the **Create a new rule** icon in the VDE panel.
  - b. Enter **GreenOn** as the Rule name.
  - c. Select **Visibility** as the Rule Type.
  - d. The Default value should be set to off, select **Off** from the drop-down box.
  - e. Next select the **plus sign** to add the Rule details.

- f. Value should be set to on that will turn visibility on.
- g. Select **when any of the following is true**.
- h. Select **EmployID** as the data base field to test. Select **[T] begins with** as the test.
- i. Set the value to test for to **1**.

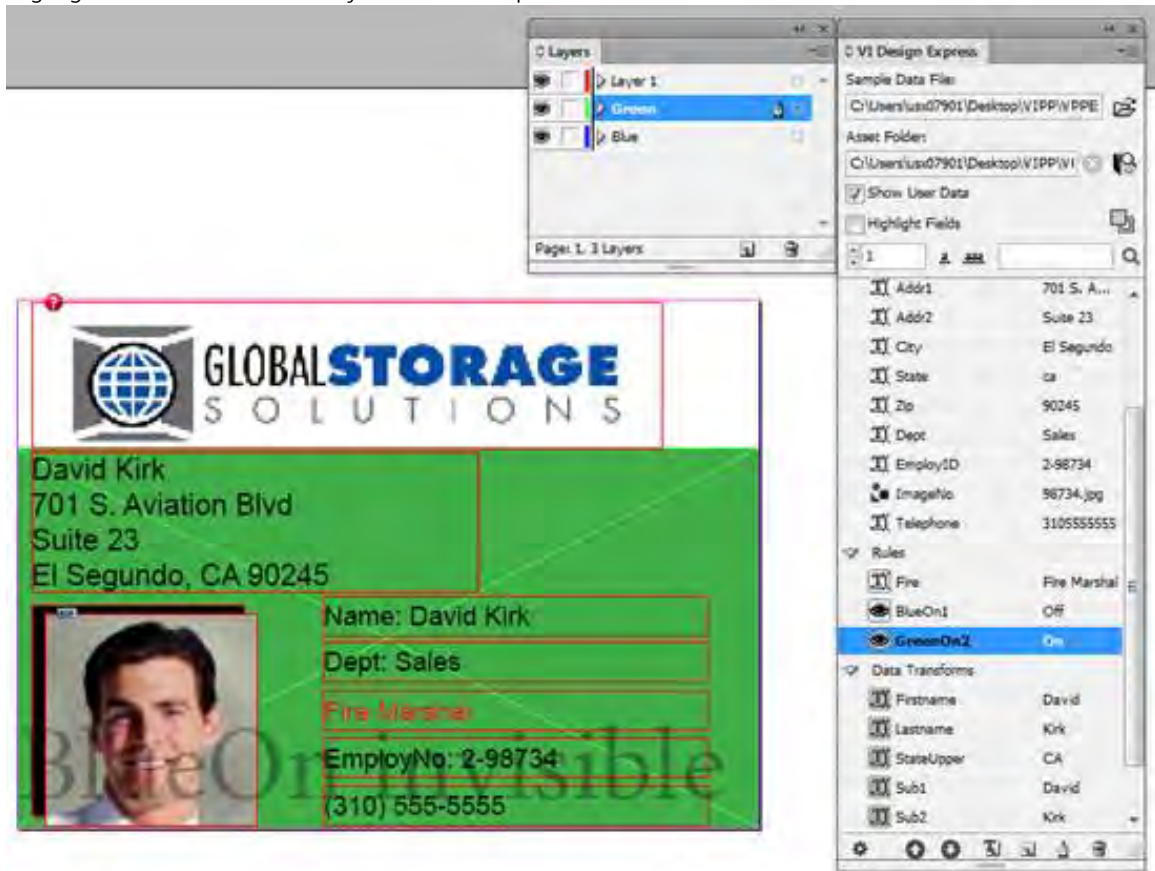
The Rule should look like this:

- 6. Select **OK** to save the Rule
- 7. Repeat the process to create a Rule for the second layer.
  - a. Click the **Create a new rule icon** in the VDE panel.
  - b. Enter **BlueOn** as the Rule name.
  - c. Select **Visibility** as the Rule Type.
  - d. The Default value should be set to off, select **Off** from the drop-down box.
  - e. Select the **plus sign** to add the Rule details.
  - f. Value should be set to **on** that will turn visibility on.
  - g. Select **when any of the following is true**.
  - h. Select **EmployID** as the data base field to test.
  - i. Select **[T] begins with** as the test.
  - j. Set the value to test for to **2**.
  - k. Select **OK** to save the Rule.

Two new Rule objects, called **GreenOn** and **BlueOn**, have been added to the VDE Panel.

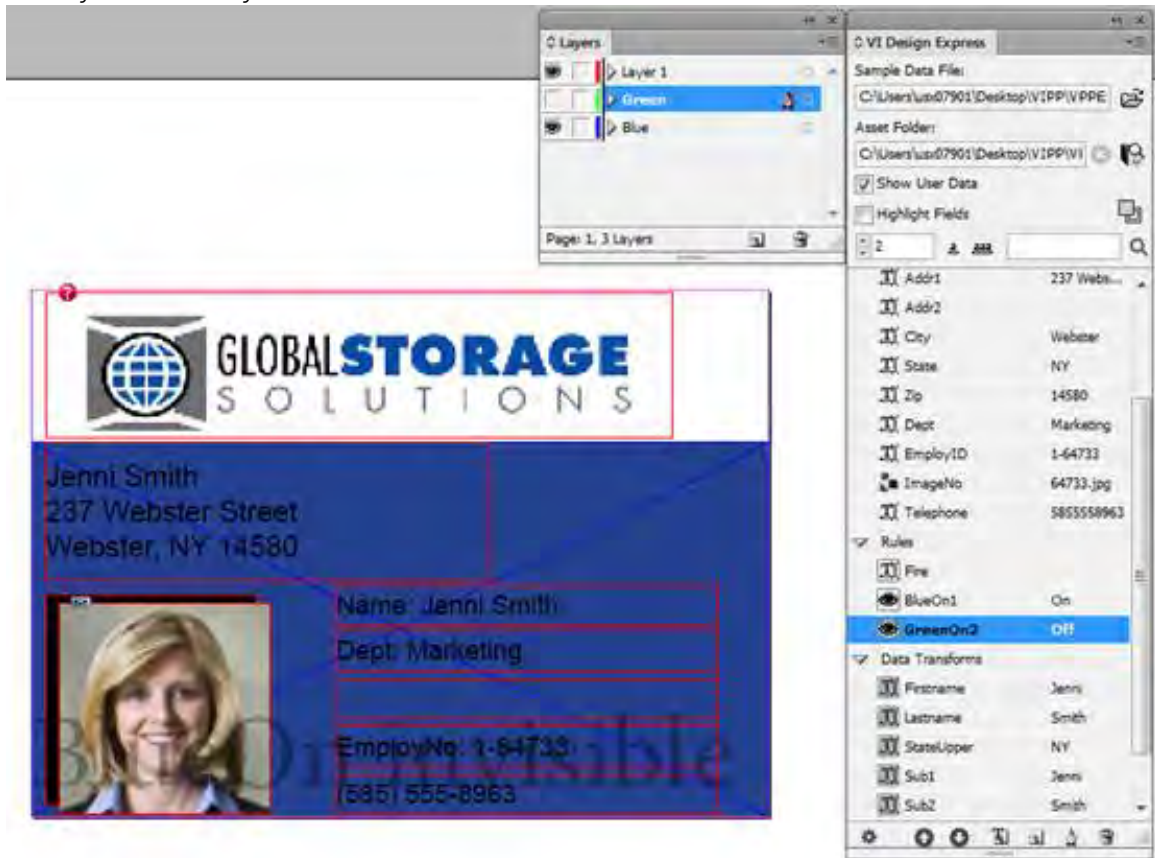
- 8. Apply the GreenOn Rule.
  - a. Scroll to record 2 in the database file.
  - b. Make sure the **Green layer** is active, select it in the Layer panel.
  - c. Click the **eye icon** in the Layers Panel to make the Green layer visible.

- d. Highlight the **GreenOn Rule** object in the VDE panel.



- e. Right-Click, then select the **Insert Object to Layer: GreenOn** option, this inserts the Rule to control the visibility of the Green layer. Because the EmployID field to layer begins with 1, the visibility for the Green layer is turned on.
9. Apply the BlueOn Rule
- Make the Blue layer the active layer by selecting it in the Layer panel.
  - Scroll to record 3, click the **eye icon** in the Layer panel to turn on the Blue layer.
  - Highlight the **BlueOn Rule** object in the VDE panel.

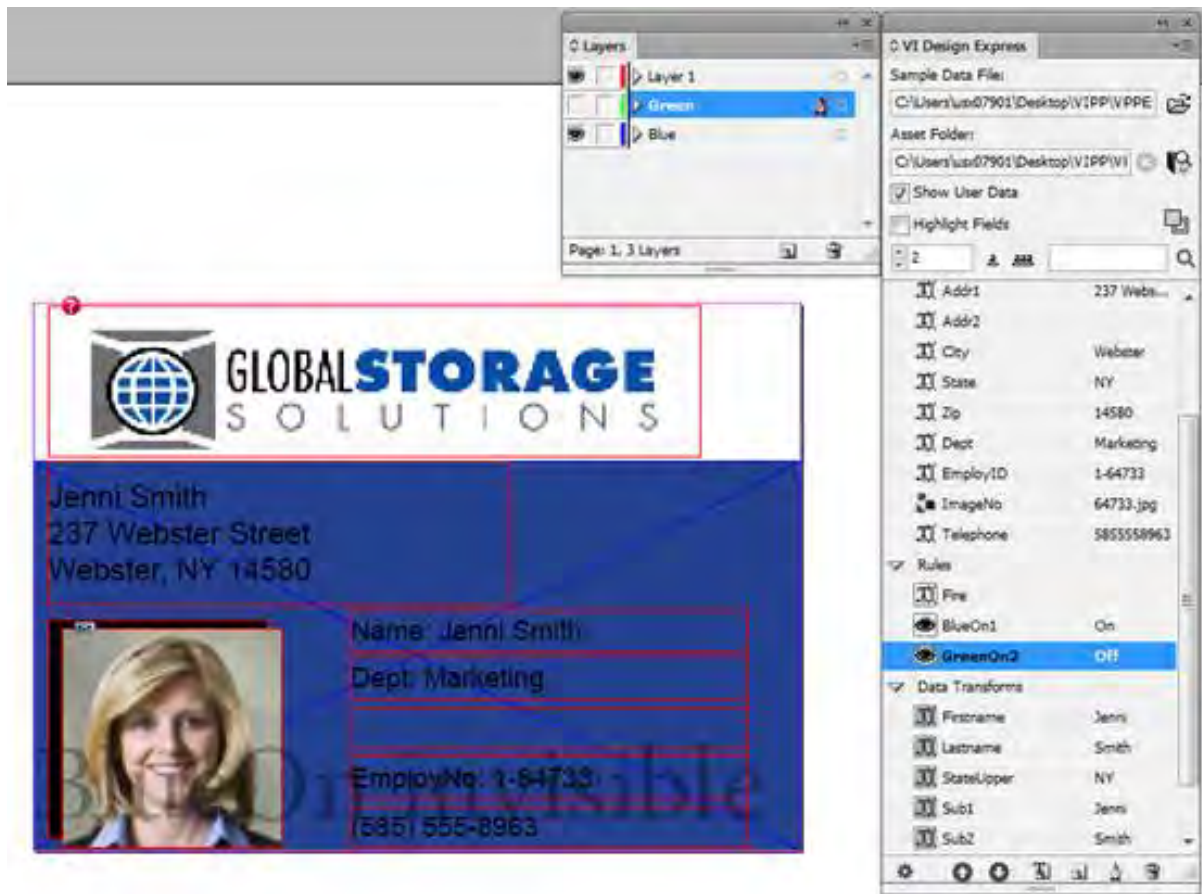
- d. Right-Click then select the **Insert Object: BlueOn** option to layer, this inserts the Rule to control the visibility of the Blue layer.



10. Save the document.



11. Scroll through the records to see the layers being turned on and off. The document should look like this:





### USING VPPLAYERNAME TO SUPPORT SEVERAL LAYERS WITH A SINGLE VISIBILITY RULE

In the previous example you created a *Green* and a *Blue* layer. To turn each layer on or off, you had to create two separate visibility rules and attach each one to its appropriate layer. This is acceptable when dealing with only a few versions of the layer, but is not practical if you want to control 50 versions of that layer. The built-in VDE variable, *VPPlayerName*, provides a simple method to control multiple versions of a layer using a single Visibility Rule. The Layer names available must appear in the VDE Panel as a data object. This can be done using either a DataBase field name containing the layer name or more likely some rule or transform that will contain the layer name.

To use this option on the file you have been using *VPPEExample.indd* either detach the layer rules you just created and delete them, or go back to the *VIPP®Example.indd* file used prior to completing this Layer exercise.

At this point you should have the ID Card open in InDesign. If you do not have a *Blue* and *Green* layer, create them now see instructions 2 through 4 in the previous section.

To use the new option in the Visibility we will first create a Rule to contain the Layer name, as this information is not in the current data base file you are using.

#### Create a Rule to Contain the Layer Names for Use Below

1. Click the **Create a new rule** icon in the VDE panel.
2. Enter a name for the rule, call it **Visibility\_Layer\_Name**.
3. Select **Text** as the Rule Type.



4. Enter a rule description, to make it easier to identify the rule options later, enter **Rule to get Layer Name**.
5. Set the default value to **Blue**. This is the name of the Blue layer.
6. Next select the **plus sign** to add the Rule details.
7. Set the Value to **Green**. This is the name of the Green layer.
8. Select **when any of the following is true**.
9. Select **EmployID** as the data base field to test.
10. Select **[T] begins with**.
11. Set the value to test for to **1**.
12. Select **OK** to save this rule.

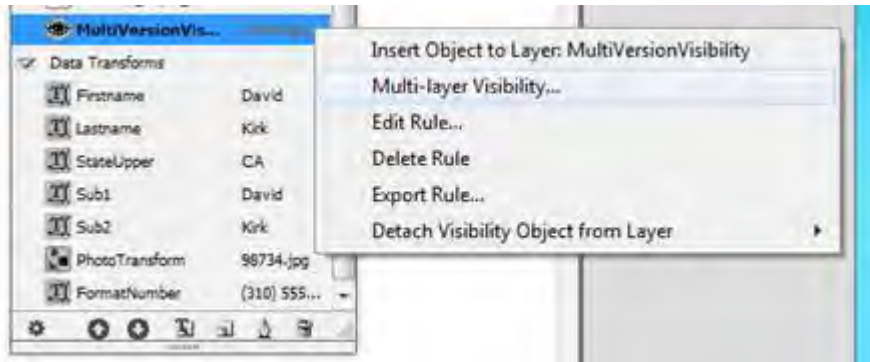
This will test the data base field EmployID for the value equal to 1. If true, the rule will return the value Green. If not true this rule will return the value Blue. This is needed to feed the Visibility rule below. Although possibly more work for these two layers, using this method for multiple versions of a layer will result in design time savings. Even more so if the Layer names are part of the data base file, as you will not need to generate a rule first.

### Creating Visibility Rule

To create the Visibility Rule follow these instructions:

1. Click the **Create a new rule** icon in the VDE panel.
2. Enter a name for the rule, call it **MultiVersionVisibility**.
3. Select **Visibility** as the Rule Type.
4. Enter a rule description, to make it easier to identify the rule options later, enter **Rule used to control Green and Blue Layer versions**.
5. Set the default visibility value to **OFF**.
6. Next select the **plus sign** to add a rule entry.
7. Set the Visibility value to **ON**.
8. Select **when any of the following is true**.
9. Select **VPPlayerName** as the option, this is a special Visibility Rule variable that represents the names of InDesign document layers.
10. Select **Visibility\_Layer\_Name** as the value to test.
11. Select **OK** to save this visibility rule.

12. Next you need to attach this rule to all applicable layers. To do this right-click the rule **MultiVersionVisibility**, and click the **Multi-layer Visibility ...** option.



This will display the Multi-layer Visibility panel that will display all available layers in your job.



13. Check the layers by name to which you want to apply the Visibility rule. In this case you want to apply the rule to **Green** and **Blue**.
14. Select **OK** - this will apply the rule.

To test the rule scroll through your records. The Green layer should show when the data base field EmployID is equal to 1. The Blue Layer should show otherwise.

### Check the Show User Data option

Make sure the option **Show User Data** is checked in the VDE panel to correctly view the variable layers switching on or off.

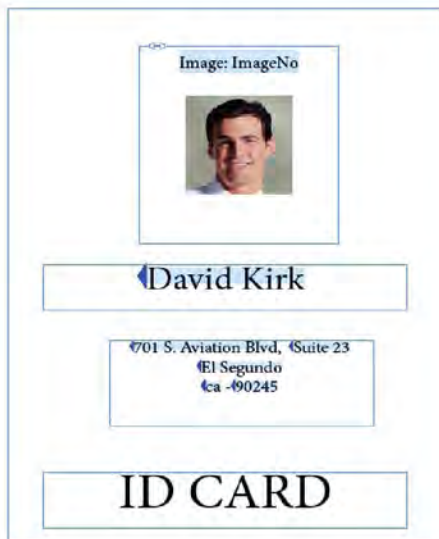
### Limitations

There are limitations associated with VPPlayerName and variable layers.

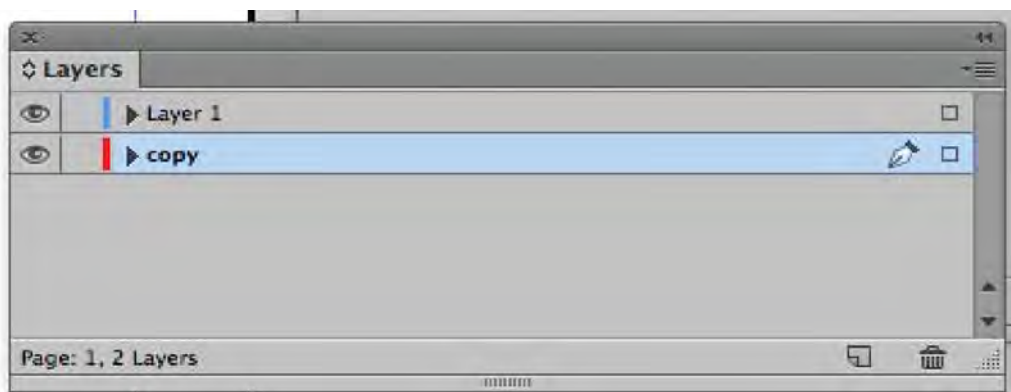
### Using PDF Visibility Rule

This is similar to the previous topic Using Rules to control layer visibility. Let's use a simple CSV data file to illustrate the usage.

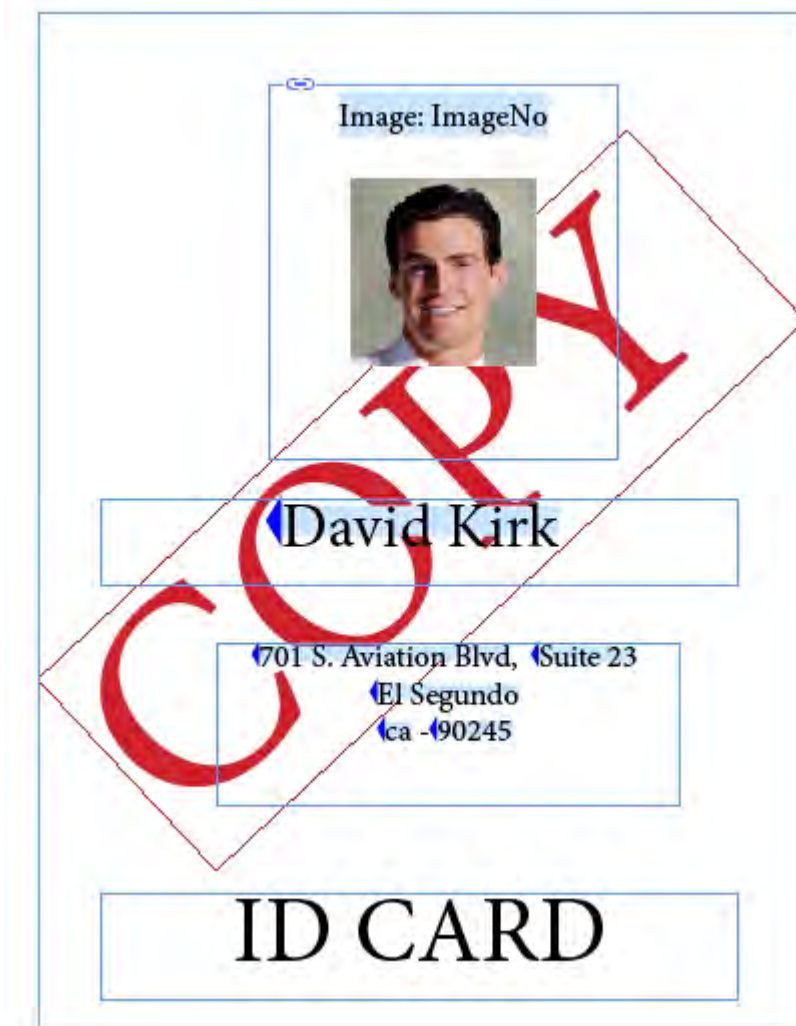
1. Open the VDE panel, if not already open.
2. Import the VPPEXample.csv data file from the VDE panel.
3. Create the content that needs to be static in the PDF in the first layer as shown below.



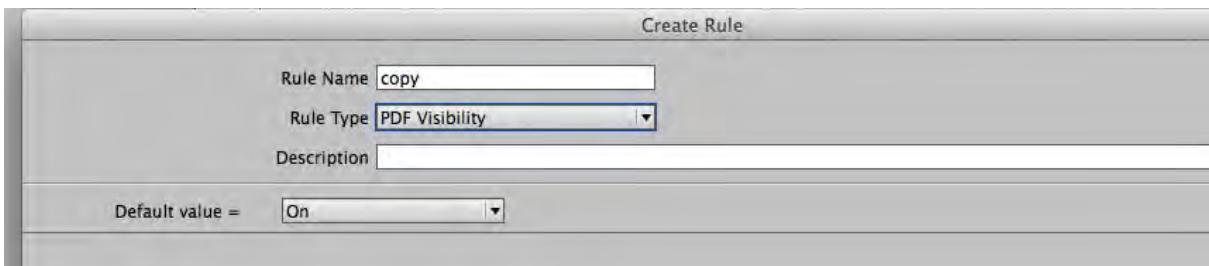
4. Create the second layer and name it as copy.



5. Create a text frame in the second layer created with the text COPY in it and place it as shown below:

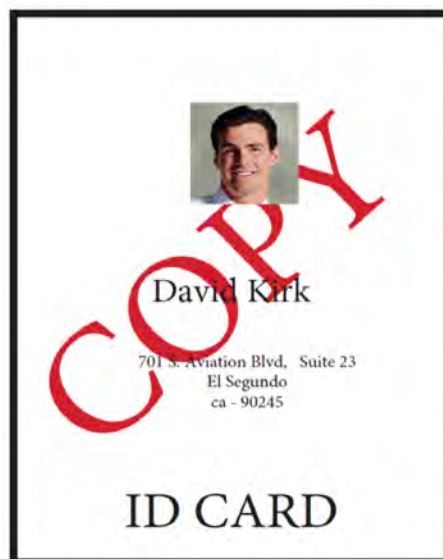
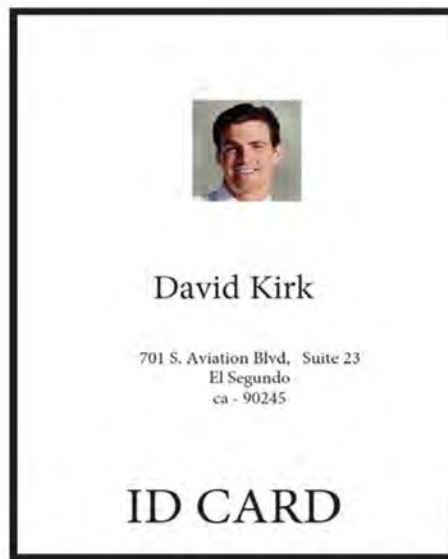


6. Create a PDF Visibility Rule.
  - a. Click the Create a new rule icon in the VDE panel
  - b. Enter the second layer name *copy* as the rule name
  - c. Select PDF Visibility as the rule type
  - d. Select the Default value as ON



7. Select OK to save the rule.

8. Apply the Copy Rule to the second layer.
  - Make sure the second layer copy is active, select it in the Layer panel.
  - Highlight the copy rule object in the VDE panel.
  - Right-Click, then select the Insert Object to Layer: copy option, this inserts the Rule to the second layer and makes this layer as an optional layer in the PDF. Likewise we can apply this rule to many layers.
9. Save the document.
10. Export the document as PDF, refer Export and print Session.
11. Now in the PDF we can see the layers as optional content.



## PAGE VISIBILITY

There are occasions where you may want to assign visibility to a page. This is accomplished by creating a visibility rule. Instead of applying the Visibility rule to a layer, you can apply it to the page. When the returned value of the Visibility rule is *On*, the page will print, otherwise, the page will not print. Note that the page will always be visible in InDesign, however, a Visibility water mark will show the current status.

For example, you may be printing an Automobile User Manual. In this case the manual is normally two pages long. However, if the customer ordered a *Special Feature*, then a *Special Feature Instruction* page is inserted between page 1 and 2, which will create a three page document.

To do this, follow these steps:

1. You need a data field to be based in a rule to determine the visibility of the extra page.
2. Create all three pages of your document using VDE.
3. In this case, page two will be the page controlled by the Page Visibility. Place the optional content on page two.
4. Next create your visibility Rule:
  - a. Give your Visibility Rule a useful name, such as **MyPageVisibilityRule**.
  - b. Set the Rule Type to **Visibility**.
  - c. Provide a short description, useful information when editing your application later.
  - d. Set the Default Value to Off.
  - e. Set the Value to On.
  - f. Select **when any of the following is true**, or another option depending on your conditional needs.
  - g. Set the data field you will be testing.
  - h. Set the condition to test for, such as **is equal to**.
  - i. Set the value you are testing for, in the example below, the field *Other1* is tested for a value of 1.

Your rule should look something like this:

The screenshot shows the 'Edit Rule' dialog box with the following fields and values:

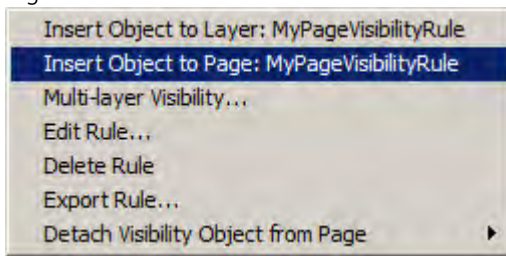
- Rule Name:** MyPageVisibilityRule
- Rule Type:** Visibility
- Description:** Special Feature Page Visibility Test using Other1
- Default value =** Off
- Value =** On
- Condition:** when any of the following is true
- Data field:** Other1
- Condition type:** [T] is equal to
- Value to test:** 1

At this point press **OK**. Next, apply the Visibility rule to the page.

### Attaching the Visibility Rule to the Page

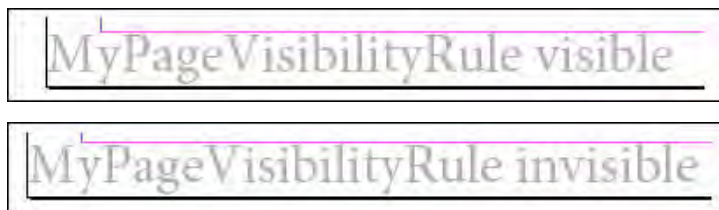
Follow these steps to attach the Visibility Rule to the page:

1. Right-click the rule.



2. With the correct layer selected in the Layer Panel, select the option **Insert Object to Page: Your Rule name** here. This will apply the page visibility rule.

When you step through your data records, the watermark will be shown to indicate if whether the page is visible or not. When visible, it will be printed, when invisible, as long as nothing else is on that page, the page will not print.



## Adding Specialty Imaging

In order to use SI in VDE, the SI screen fonts and color swatches must be installed, this is an option selected in the VDE installer. The VDE installer can be re-run at any time to install these assets. Also, read [Using Specialty Imaging Effects](#) in this document to understand VDE and the printer considerations for SI printing.

The information contained in this Hints and Tips section assumes that you read the Specialty Imaging section of this document and have installed the VDE assets and printer resources to support the Specialty Imaging.

### HOW TO ADD MICROTTEXT

The goal is to place a MicroText line underneath the photo that contains static and variable text.

1. Open **VPPEExample.indd**, and the VDE panel, if not already open.
2. Create a new layer.
  - a. Call the layer **Sleffects**. It is not necessary to create a new layer in order to use SI effects.
  - b. Make the new layer the active layer.
3. Draw a text block anywhere on the document, that extends across the whole document., This text box is drawn because MicroText is a very small font, and it is useful to use a 6 or 8 point size first to ensure that the correct data is entered, before highlighting it and changing the font size to 1 point required for all MicroText fonts.
4. Set the text font to a standard font, such as Arial, and the font size to 6.
5. Enter the data to be contained in the text block:
  - a. Type **Name**.
  - b. Insert the object, **Firstname**, from the VDE panel, double-click the **object** in the VDE panel.
  - c. Insert a **space character**, then insert the object, **Lastname**, from the VDE panel.
  - d. Type **five space characters**, then insert the object, **EmployID**, from the VDE panel.
  - e. Add **five more spaces**, then repeat the process once more until there are two sets of data. The text line for record 1 should look like this when finished:

Name David Kirk      2-98734                      Name David Kirk      2-98734

6. Apply center alignment by highlighting the **text string** and selecting **Type - Paragraph** and selecting the **center alignment** icon.
7. MicroText should be black, cyan, magenta, or yellow. Highlight the **text string** and select **one of these solid colors** from the swatch panel.  
Next the MicroText settings will be applied. It is important that the attributes described below are used. Using any other attribute settings or scaling the font in any way will negatively affect the Specialty Imaging effect.



8. Highlight **the text string**, then:
  - Select the **micro text** font to use. Select the **SI\_micro font family**, then select one of the eight available styles. For example, f7-Bold. This is approximately 0.7 points and is a bold style.
  - Set the point size attribute to 1, this must be set to 1, no other value is supported. It is necessary to use the keyboard to set this value to 1.
  - Resize the text box to the approximate height and width of the text. Be careful to allow enough space for records that will have a greater number of characters in the variable objects in the text string.
  - Drag the text string and position it just below the image

To view the MicroText, select **Ctrl +** to zoom in, then select **Ctrl -** to zoom out.

9. Save the document.

## HOW TO ADD FLUORESCENTMARK

The goal is to place a fluorescent text line just above the photo that contains variable text.

1. Open **VPPEXample.indd**, and the VDE panel, if not already open.
2. Create a new layer called **SIeffects**. If already created, make sure that is the active layer.
3. Scroll to record **1**.
4. Draw a text box the width of the document and between the last line of the address line and the photo image.
5. With the text box selected, select a **SI\_UV\_colorname color** from the Swatches panel. This is a special SI color key, it may be necessary to load the SI\_UV\_color from the VDE color library. Refer to [Using a Specialty Imaging color swatch](#) to load the SI\_UV\_color to the Swatches panel.
6. Select the color **SI\_UV\_GOLD1**, this will fill the text box with the SI\_UV\_GOLD1 color.
7. Next click the **text icon** and click inside the **text block** to position the text insertion cursor.
8. Select the **Type > Paragraph** option from the menu bar and select the center alignment icon to center the text insertion cursor horizontally.
9. Select **Object > Text Frame Options** and under the Vertical Justification settings select **Center** from the Align drop-down box. The horizontal and vertical text alignment will be set to center or center, a recommended setting for a fluorescent text string.
10. Select the **text color**. Th is MUST be set to **Paper** in the Swatches panel. The fluorescent effect will not work when using any other setting.
11. Enter the variable text into the application:
  - a. Double-click **Firstname** in the VDE panel to insert that text object into the fluorescent string.
  - b. Add a **space character**, then double-click the **Lastname** object to insert that into the text string.
  - c. Add a **space character**, then double-click the **EmployID** object in the VDE panel to insert the employee ID number.
  - d. If required, highlight the text and change the font or the font size. Use any font that InDesign has access to.
12. Scroll through the document to see the variables change from record to record.
13. Save the document.





