

# Xerox<sup>®</sup> 4112<sup>®</sup>/4127<sup>®</sup>, D95/D110/D125 Copier/Printer Document Scan TWAIN Driver User Guide

Software Version 1.5.6

August 2012





©2012 Xerox Corporation. All rights reserved. XEROX®, XEROX and Design®, 4112®, 4127® and FreeFlow® are trademarks of the Xerox Corporation in the United States and/or other countries.

Fiery® is a registered trademark of Electronics For Imaging, Inc.

Microsoft®, Windows® and Windows Vista® are registered trademarks of Microsoft Corporation.

This software incorporates and uses:

- The Independent JPEG Group's software: Copyright© 1991-1998, Thomas G. Lane.
- XML Parser: Copyright© 2002, Frank Vanden Berghen \* All rights reserved.
- The LibTiff library: Copyright© 1988-1997 Sam Leffler; Copyright© 1991-1997 Silicon Graphics, Inc.

BR1461

Document Version: 1.5.6 (September 2012).



# Table of Contents

About the Document Scan Driver .....	1
Installing the Document Scan Driver .....	3
Installation Requirements .....	3
Obtaining the Installation Files.....	3
Installing the Driver .....	4
Configuring the Driver .....	5
Choosing the Transfer Protocol.....	5
Managing the Scanner List.....	6
Configuring an Individual Scanner .....	7
Scanning .....	9
Scanning using an Application's Interface.....	11
Scanning using the Driver's Interface.....	13
Main Scan Dialog.....	15
Scan Button .....	15
Close Button.....	15
About Button .....	16
Basic Settings .....	17
Color Scanning .....	17
2 Sided Scanning .....	17
Original Type.....	17
Resolution.....	18
Image Enhancement.....	19
Brightness.....	19
Contrast.....	19
Sharpness .....	19
Saturation .....	19
Suppress Background Color .....	20
Remove Bleed-through.....	20
Layout Adjustment .....	21
Scan From.....	21

Original Orientation.....	21
Original Size .....	21
Standard Sizes.....	22
Custom Paper Size.....	22
Reduce/Enlarge.....	22
Configuring FTP Transfer Protocol.....	23
Configuring SMB Transfer Protocol.....	25
Uninstalling the Driver .....	27
Advanced Technical Information.....	29
Troubleshooting.....	30
Configuration.ini .....	30

# About the Document Scan Driver



TWAIN is an industry standard protocol for applications that interface with scanning devices. The Xerox® Document Scan TWAIN Driver allows TWAIN-compliant applications running on a Microsoft® Windows® XP, Windows Vista®, or Windows 7 32 or 64 bit workstation to access the Document Scanner on a network connected Xerox® copier/printer.

The Document Scan Driver supports the following products:

- Xerox® 4112®/4127® Copier/Printer
- Xerox® 4112/4127 Copier/Printer with FreeFlow® Print Server
- Xerox® 4112/4127 Copier/Printer with Xerox® EX Print Server, powered by Fiery®
- Xerox® D95/D110/D125 Copier/Printer
- Xerox® D95/D110/D125 Copier/Printer with FreeFlow Print Server
- Xerox® D95/D110/D125 Copier/Printer with Xerox® EX Print Server, powered by Fiery





# Installing the Document Scan Driver

This chapter includes:



Installation Requirements

Obtaining the Installation Files

Installing the Driver

## Installation Requirements

The following are required for installing the Document Scan driver:

- The workstation must be running the Microsoft Windows XP, Windows Vista, or Windows 7 Operating Systems.
- You must have administrator rights on the workstation
- The workstation must be able to communicate via TCP/IP with the Copier/Printer.
- The Copier/Printer must be connected, configured, and functioning as a network scanner with TCP/IP and HTTP enabled.
- ** If Windows Firewall is enabled on the workstation, you may be required to set up an Exception and for the “Configure” utility that is part of this driver and for any TWAIN scanning applications that use this driver.**
- ** Other firewall software may require similar measures. You may be prompted during configuration or at the first scan with a message similar to “Program xyz is trying to access the network, should this be allowed?” Choose to this, and if possible tell the firewall software to remember your choice.**

## Obtaining the Installation Files

The Xerox® Document Scan TWAIN driver can be downloaded from [www.xerox.com](http://www.xerox.com)

# Installing the Driver

Unzip the downloaded install distribution archive to a temporary folder.

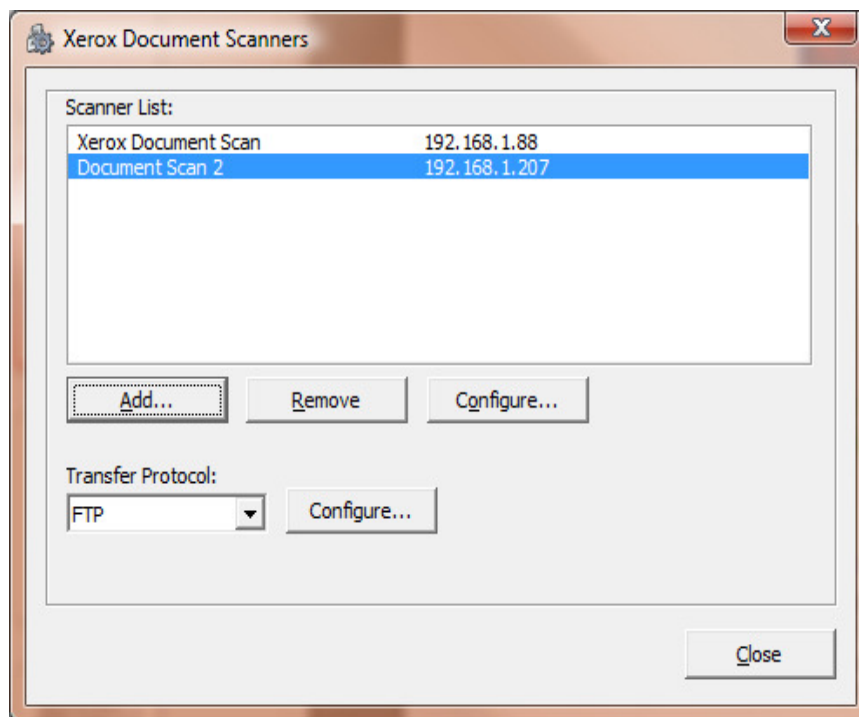
Run Setup.exe in the install distribution and follow the prompts.

When installation is complete, continue on to **Configure the Driver**.

# Configuring the Driver

# 3

The main configuration dialog is reached by Start > Xerox Document Scan > Configuration or Start > All Programs>Xerox Document Scan > Configuration



## Choosing the Transfer Protocol

This is the protocol used by the scanner to send images to the workstation. The same protocol is used with all the scanners, which is why the choice is made here in the main configuration dialog.

In the 1.0 driver, only SMB transfer was supported – this is essentially Windows file sharing. The latest release of the driver supports FTP transfer, and this is now the recommended transfer protocol – it is both faster and simpler to administer. See **Configuring FTP Transfer Protocol** and **Configuring SMB Transfer Protocol**.

# Managing the Scanner List

Managing scanners is straightforward. To configure a new scanner, click the **Add** button. The driver will assign the first unused slot in the Scanner List and open the configuration dialog for that device. If all available slots are in use, the **Add** button will be grayed and disabled. The driver is normally limited to nine scanners, but this limit can be increased. See **Advanced Technical Information**.

To view or change the configuration of a scanner, select it in the Scanner List and click the **Configure** button.

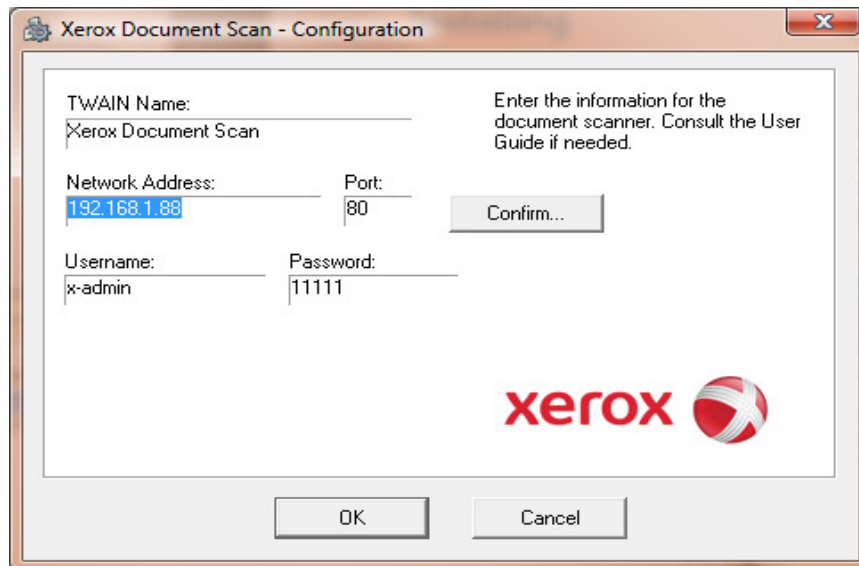
To remove a scanner from the list, select it and click the **Remove** button. You will be asked to confirm.

# Configuring an Individual Scanner

## 4

This scanner configuration dialog is reached by going to **Start > Xerox Document Scan > Configuration** and either

- Selecting a device and clicking the **Configure** button or
- Clicking the **Add** button



Choose the **TWAIN Name** you would like to use for this scanner. Enter the **Network Address**, **Username** and **Password** for the device.

The Network Address is the IPv4 address, IPv6 address, or fully qualified host name of the target Copier/Printer.

The **Port** is the device's network communication port.

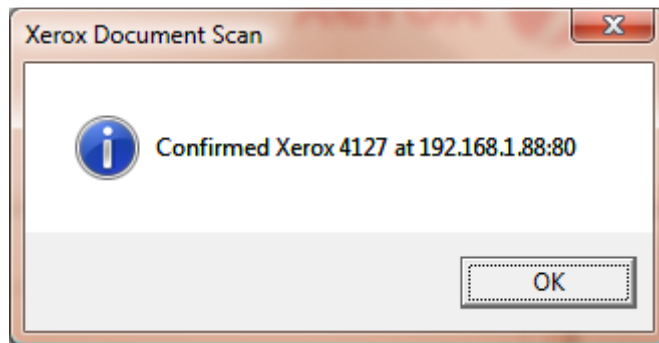
Check with your Printer/Copier administrator for the required Username and Password.

- For the 4112/4127, the factory default username is **x-admin** and the default password is **1111**.
- For the D95/D110/D125, the default username is **1111** and the default password is **admin**.

The required Network Address and port number depend on the specific copier/printer configuration:

Model	IP Address To Use	Port
Xerox® 4112/4127 Copier/Printer	Copier/Printer	80
Xerox® 4112/4127 Copier-Printer with FreeFlow Print Server	Copier/Printer (requires 2 <sup>nd</sup> network connection directly to Copier/Printer)	80
Xerox® 4112/4127 Copier-Printer with Xerox EX Print Server	Copier/Printer (requires 2 <sup>nd</sup> network connection directly to Copier/Printer)	80
Xerox® D95/D110/D125 Copier/Printer	Copier/Printer	80
Xerox® D95/D110/D125 Copier/Printer with FreeFlow Print Server	Copier/Printer (requires optional Ethernet Switch)	80
Xerox® D95/D110/D125 Copier/Printer with Xerox EX Print Server	Print Server (same as used to submit print jobs)	8080

When you click the **Confirm** button the driver will try to contact the scanner using the settings in the dialog. You should see a message box giving the Manufacturer and Model name of the device, like this:



*Note: You may see a warning dialog from the firewall software running on the workstation. Give permission for the program to access the network. You may also be able to tell the firewall to remember your choice so it does not ask again.*

When you click the **OK** button in the **Configuration** dialog, the driver will reconfirm the device information and then save all the settings.

# Scanning

# 5

Some TWAIN applications supply their own scanning user interface; others rely on the user interface provided by the Document Scan driver. Some applications allow you to work either way.





# Scanning using an Application's Interface

The TWAIN user interface varies widely between applications, so these notes are necessarily general.

1. Run the TWAIN application of interest.
2. Select the device by the TWAIN name you assigned in the main configuration dialog, for example **Xerox Document Scan**. The method of doing this varies. Consult the application's documentation or vendor.
3. Select appropriate scan settings as offered by the application.  
*Note:* Refer to the latest Release Notes for any application related issues and workarounds.
4. Place material to be scanned into the document feeder (DADF) or onto the platen (glass).
5. Tell the application to start a scan.  
*Note:* You may see a warning dialog from the resident firewall: Give permission, and if possible tell the firewall to remember your choice.



# Scanning using the Driver's Interface

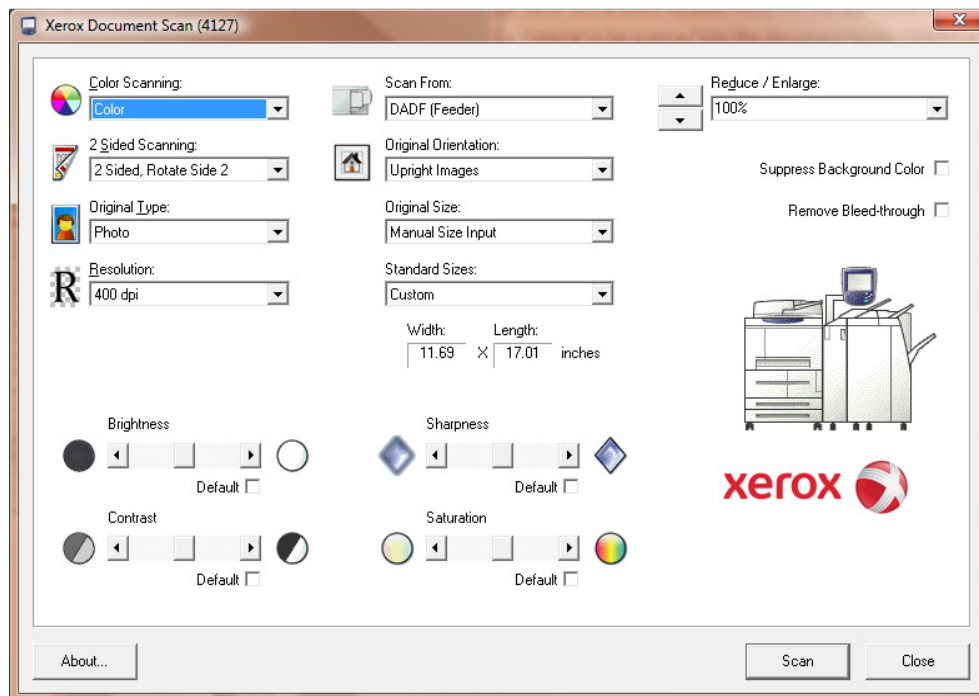
# 7

1. Run the TWAIN application of interest.
2. Select the device by the TWAIN name you assigned in the main configuration dialog, for example **Xerox Document Scan**. The method of doing this varies. Consult the application's documentation or vendor.
3. Direct the application to start a scan. *Note: You may see a warning dialog from the resident firewall: Give permission, and if possible tell the firewall to remember your choice.*
4. When the Xerox Document Scan dialog appears, select the desired settings and click the **Scan** button. See below.



# Main Scan Dialog

# 8



The controls on this dialog are similar to the scanner controls on the tabbed sections on the Printer/Copier UI.

## Scan Button

Click this to initiate scanning. Once the scanner starts scanning, this button will be disabled until scanning completes.

Once a scan job has completed and all images have been transferred to the application, the **Scan** button will re-enable. Some applications may automatically close the scan dialog at that point, but most will allow you start another scan job, after changing settings if desired. To the application, everything you scan until you press the **Close** button will be treated as one continuous sequence of pages.

## Close Button

Click this button to close the scan dialog. This signals the application that you are done with the current scanning task.

## About Button

This button displays version and copyright information about the TWAIN driver, plus some technical details about the connected copier/printer.

# Basic Settings

# 9

The basic settings are: Color Scanning, 2 Sided Scanning, Original Type and Resolution.

## Color Scanning

Determines the range of colors used to represent scanned documents:

<b>Black &amp; White</b>	Two colors: Black, and White.
<b>Grayscale</b>	256 shades of gray.
<b>Color</b>	24 million colors.
<b>Auto Detect</b>	Scanner selects for each page.

Note: The 4112/4127 requires installation of the optional Color Scan Enablement Kit to scan grayscale and color documents. The **Auto Detect** choice is only available if the scanner supports Grayscale or Color scanning.

## 2 Sided Scanning

The available choices are:

<b>1 Sided</b>	Scan only the front of each page. Also called <i>simplex</i> .
<b>2 Sided</b>	Scan front and back of each page. Also called <i>duplex</i> .
<b>2 Sided, Rotate Side 2</b>	Scan front and back and rotate the back 180°. Also called <i>tumble duplex</i> .

## Original Type

Advises the scanner on the content of the document(s) to be scanned. This helps the scanner do a better job of processing and representing what it scans. The available choices are:

<b>Text</b>	Pure text, perhaps with line-art diagrams.
<b>Photo</b>	Photos, or smoothly-shaded illustrations or graphics.
<b>Photo &amp; Text</b>	A mixture of text and photos. (This is the default.)

# Resolution

Determines the amount of detail captured in scanning, measured in DPI (Dots per Inch.)

Available choices are:

- |                |   |
|----------------|---|
| <b>200 DPI</b> | Similar to high-quality fax, very commonly used for ordinary document capture, where 'good' quality and moderate storage size is desired. Good quality for images and photos, unless they will be heavily enlarged or printed professionally. |
| <b>300 DPI</b> | 'Crisp' capture of typical office and printed documents.  |
| <b>400 DPI</b> | Very crisp, high detail: Unusual to use for typed or printed material. Useful for high quality photographic prints.   |
| <b>600 DPI</b> | Useful for high quality images or very fine text.   |

As noted above, higher resolution does not necessarily mean a better-looking scan, and each increment in resolution increases the amount of disk space required to store the data. If you are unsure about choosing resolution, assemble a representative collection of pages and scan them at each available resolution. Compare the on-screen *and printed* quality of the scanned images and their storage requirements to come up with guidelines for resolution.



# Image Enhancement

# 10

## Brightness

Allows the image to be made lighter or darker. Negative values (sliding to the left) make scanned images darker, positive values (sliding to the right) make them lighter.

Checking the **Default** checkbox tells the scanner to choose this setting automatically for each image.

## Contrast

Contrast defines the difference in brightness between light and dark areas in the scan. A negative contrast value (slider to the left) lowers the contrast, decreasing the difference between the light and dark areas. Positive contrast values (slider to the right) increases the difference between the light and dark area.

Checking the **Default** checkbox tells the scanner to choose this setting automatically for each image.

## Sharpness

Negative values (slider to the left) reduce the sharpness of scans, and tend to make edges softer and images look blurred. Positive values, (slider to the right), will make edges sharper.

Sharpness is only enabled for grayscale and color scans.

Checking the **Default** checkbox tells the scanner to choose this setting automatically for each image.

## Saturation

Saturation affects the purity of colors. It applies only to color scans.

Negative values of saturation (slider to the left) mute colors, moving them towards gray tones. Positive values of saturation (slider to the right) increases color intensity.

Checking the **Default** checkbox tells the scanner to choose this setting automatically for each image.

## Suppress Background Color

When checked, this setting attempts to detect and remove the background color of a page. For example, material printed on yellow or pink paper will scan as if the paper were white.

## Remove Bleed-through

Some paper is partially transparent to the scanner, so if there is data on both sides it can *bleed through* from the back when the front is being scanned. When checked, the scanner applies a process that may reduce the bleed-through.

# Layout Adjustment

# 11

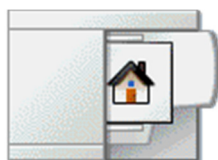
## Scan From

Determines whether documents are scanned from the feeder (DADF) or the platen (glass). The three choices are:

- Automatic**      Scan from feeder if it is loaded, otherwise from the platen.
- DADF (Feeder)**      Scan from the feeder.
- Platen (Glass)**      Scan from the platen.

## Original Orientation

Describes how documents are *oriented* relative to the feeder or platen. In this case, orientation refers to the readable image orientation. For example, a portrait original fed LEF would have an *Upright* orientation, while a landscape original fed LEF would have a *Sideways* orientation.



Upright



Sideways

## Original Size

- Auto Detect**      The scanner chooses the paper size after scanning the first page.
- Mixed Sized Originals**      The scanner attempts to determine the size of each page.
- Manual Sized Input**      User-specified size. See *Standard Sizes*, next.

## Standard Sizes

This list box appears only when **Original Size** is set to **Manual Sized Input**.

A variety of paper sizes are listed, such as:

Custom  
A4 Letter (SEF)  
A4 Letter (LEF)  
8.5 x 11" (LEF)  
8.5 x 11" (SEF)  
A3 (SEF)  
...

Each size is marked (SEF) or (LEF) to show how the paper is fed into the ADF:



*SEF: Short-Edge Feed*



*LEF: Long-Edge Feed*

If **Custom** is chosen, the **Custom Paper Size** controls appear – see the next section.

## Custom Paper Size

If the **Custom** paper size is selected, **Width** (Feed Edge) & **Length** fields appear allowing you to enter a custom paper size.

An information dialog will be displayed if you try to scan using a paper size that is not supported by the scanner.

## Reduce/Enlarge

Allows the scanned material to be reduced or enlarged.

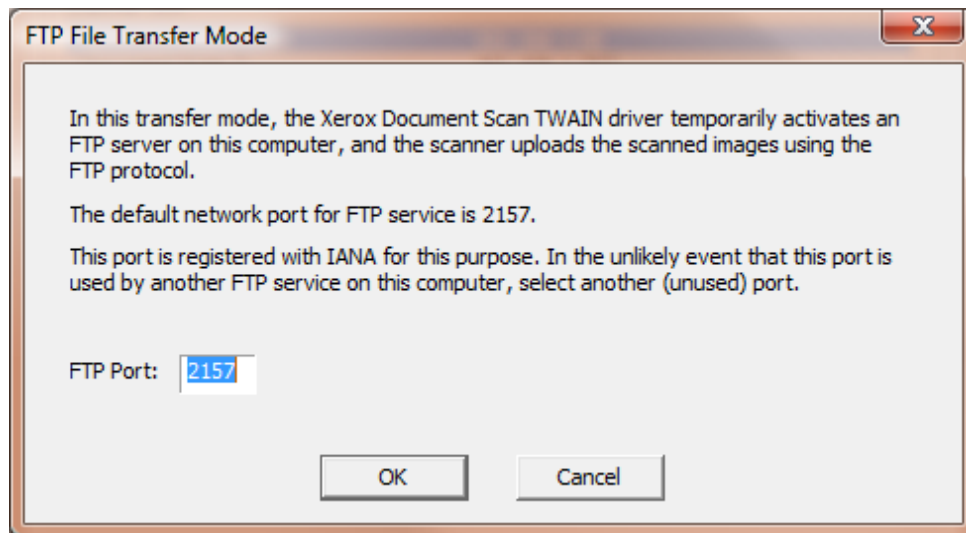
Select an entry from the drop-down list, enter a percentage, or use the up/down buttons to step to the desired value.

The minimum value is 25 %, and the maximum value is 400 %. An information dialog is displayed if you try to scan using a value outside this range

# Configuring FTP Transfer Protocol

# 12

This dialog is reached by going to **Start > Xerox Document Scan > Configuration**, selecting **FTP** as the **Transport Protocol**, and clicking the adjacent **Configure** button.



The only setting is the network port to use. It is very unlikely that this port will be in use, which would be the only reason to use a different port number.

During the first scan, if the workstation has firewall software, you may be prompted to grant the scanning application permission to use the FTP port. Alternatively, your system administrator may need to configure the workstation to open this FTP port.

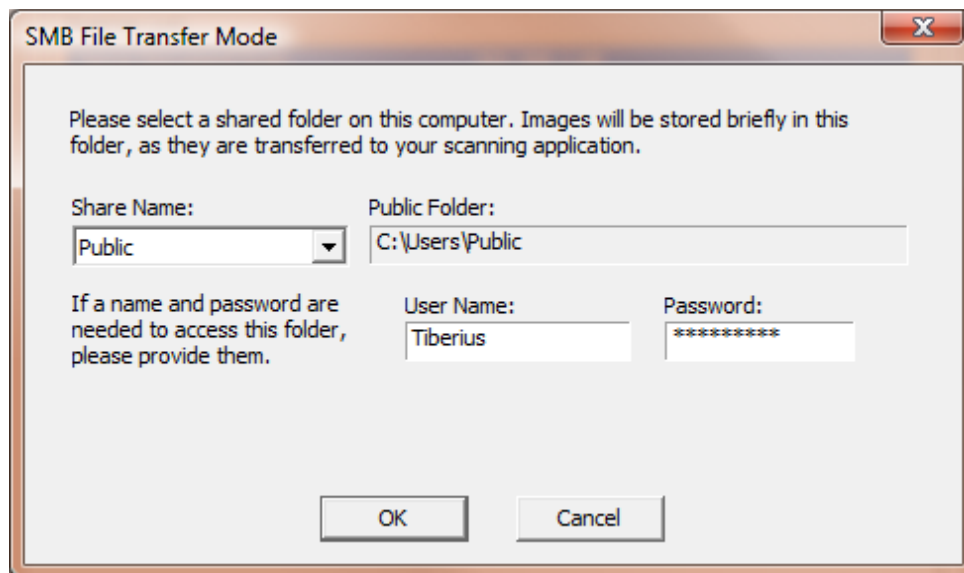
**Administrators:** Port 2157 is assigned to the Xerox® Document Scan application by IANA, it is *not* the customary port for FTP service.



# Configuring SMB Transfer Protocol

# 13

This dialog is reached by going to **Start > Xerox Document Scan > Configuration**, selecting **SMB** as the **Transport Protocol**, and clicking the adjacent **Configure** button.



**Note:** With this release of the Document Scan driver, FTP transfer mode is recommended instead of SMB mode.

Before SMB transfer mode can be used, the workstation must be configured:

Use standard Windows procedures (**Control Panel > User Accounts**) to create a user account for use by the Xerox® Document Scan driver. It is highly recommended that this account be used only for network scanning. **Note: This user account must have a password assigned.**

Use standard Windows procedures to create a folder and share it on the network. This folder must be on a disk volume with adequate space to hold all images in the largest anticipated scan job. Assign full control permissions on the folder to the user account created in the previous step.

Select the **Share Name** of the shared folder to be used for temporary storage of incoming scanned images. Confirm that this corresponds to the intended **Public Folder**. Fill in the **User Name** and **Password**, to give the scanner access to that folder over the network.





# Uninstalling the Driver

# 14

If the SMB Transport Protocol has been used, there may be a public folder and a user account that were created just to support that protocol. If you want to remove these, follow these steps:

Run the **Configuration** utility, from the **Start** menu, under **Xerox Document Scan**.

Select **SMB** as the **Transport Protocol** and click the adjacent **Configure** button.

Note the Public Folder and User Name.

Cancel out of the **Transfer Mode** and **Document Scanners** dialogs.

Use standard Windows procedures to delete the public folder.

(Caution: That folder should contain only numbered image files or nothing at all.)

Use standard Windows procedures to delete the associated user account, if desired.

Go to the installed software list:

*Windows XP:* Use Control Panel > Add or Remove Programs

*Windows Vista, Windows 7:* Use Control Panel > Programs and Features

Select **Xerox Document Scan** and choose the **uninstall** option.

Follow the on-screen prompts, if any.



# Advanced Technical Information

# 15

The following information may be useful to customers and Xerox support personnel, performing advanced configuration or troubleshooting.

The driver is installed in the folder **\\Windows\\twain\_32\\Xerox\\DDS**  
Some of the key files in that folder are:

xnsdds.ds	driver proper, unit 1 (the first scanner in the scanner list)
xnsdds2.ds	copy of the driver for unit 2 (2 <sup>nd</sup> scanner)
xnsdds3.ds	...
xnsdds4.ds	...
xnsdds5.ds	...
Xnsdds6.ds	...
Xnsdds7.ds	...
Xnsdds8.ds	...
Xnsdds9.ds	copy of the driver for unit 9 (9 <sup>th</sup> scanner)
XJpeg.dll	JPEG compressor/decompressor
XTiff.dll	a decoder for the TIFF file format, used by the scanner.
xnsddsLOC.dll	localized resources - default, English
xnsddsDEU.dll	localized resources – German
xnsddsESP.dll	localized resources – Spanish
xnsddsFRA.dll	localized resources – French
xnsddsITA.dll	localized resources – Italian
xnsddsNLD.dll	localized resources – Dutch
xnsddsPTB.dll	localized resources - Brazilian Portuguese
XeroxTwainConfig.exe	Configuration utility
canceljob.xml getattr.xml jobstat.xml jobtemplate.xml scannerstatus.xml xjt.xml	Read-only data files needed by the driver.
Configure.ini	File containing device specific configuration settings for the driver.

The number of available slots in the scanner list (see Managing the Scanner List on page 6) is equal to the number of sequentially-numbered .ds files. Deleting **xnsdds9.ds** will reduce the number of slots to 8, copying **xnsdds.ds** to **xnsdds10.ds** will create a 10<sup>th</sup> slot for a scanner.

The driver stores user preference and configuration information in the registry, in the per-user section under **HKEY\_CURRENT\_USER\Software\Xerox Corporation\Xerox Document Scan**. The **Client** subkey stores the driver-wide settings, and subkeys **Unit1**, **Unit2**, etc. store the per-scanner settings.

## Troubleshooting

The most difficult problems to troubleshoot with the Document Scan driver are network communication problems - particularly image transfer problems - because the error messages are nonspecific.

If the scanner scans or begins scanning, but no images are received by the application, or the scan aborts with a message like "System cancelled scan job," suspect a problem transferring data from the device to the workstation:

Check the **File Transfer Protocol** (page 5) to make sure it is set as desired, and check the settings for the protocol. You may have to work intimately with the workstation firewall to be sure that incoming network connections are permitted to the selected FTP port, from the scanner.

If you are using **SMB** transfer protocol, check that the public folder exists, is public, and can be accessed from the network using the name, user name and password entered in the **SMB Protocol** configuration dialog. This can be done from a 2nd workstation on the same subnet as the Copier/Printer, by connecting to the shared folder. Confirm that you can remotely create a subdirectory in that folder, and create a file within the subfolder.

## Configuration.ini

The file **\Windows\twain\_32\Xerox\DDS\Configuration.ini** defines several operational parameters for the Document Scan Driver. The entries in this file should rarely need to be modified. The file contains up to 12 sections:

[all]	Contains settings to be applied to all Copier/Printer models
[deviceN]	Each section contains settings to be applied to specific Copier/Printer models. Applicable models for a section are defined by the Devices entry, which contains a list of strings separated by "I". The section applies to all models whose name starts with one of the strings.
[default]	The [Default] section contains settings for any Copier/Printer models that do not match one of the [deviceN] sections.

Available configuration settings include:

ClientIPAddress	Normally, the driver automatically determines the IP address of the client workstation. In rare cases (e.g. when there is a NAT router between the workstation and the Copier/Printer), the automatically obtained IP Address is not correct. ClientIPAddress can be used to override the automatically obtained address.
-----------------	---

Rotation	Default image orientation. 0 corresponds to “Sideways Image”. 270 corresponds to “Upright Image (image to left)”. 90 corresponds to “Image to Right”. 180 corresponds to “Image to Bottom”
Orientation	Default paper feed orientation. 0 corresponds to “Short Edge Feed (SEF)”. 270 corresponds to “Long Edge Feed (LEF)”.
Rotation	Default image orientation. 0 corresponds to “Sideways Image”. 270 corresponds to “Upright Image”.
Rot0	Actual rotation required to achieve a Rotation value of 0.
Rot90	Actual rotation required to achieve a Rotation value of 90.
Rot180	Actual rotation required to achieve a Rotation value of 180.
Rot270	Actual rotation required to achieve a Rotation value of 270.
RotateCustomSizeLEF	0: Do not automatically rotate LEF Custom paper sizes if they do not fit on platen. Size will be cropped as needed (default). 1: Rotate LEF Custom paper sizes if they do not fit on the platen LEF but would fit SEF.
UseCheckStatus	0: Respond with TWRC_SUCCESS when the data source accepts a value set by a client application but must round it to an acceptable value 1: Respond with TWRC_CHECKSTATUS when the data source must round a value set by a client (default) Some applications have been found to improperly handle the TWAIN TWRC_CHECKSTATUS response. This option can be used to avoid that problem.