



Document Scan TWAIN Driver™

User Guide

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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 or Windows Vista workstation to access the Document Scanner on a network connected Xerox 4112/4127.

New in this Release

- Support for updated firmware on the 4112/4127.
- Each workstation can access multiple scanners.
- Images can be moved across the network using the FTP protocol, which is faster.
- With updated device firmware, data transfer and scanning are concurrent, improving throughput.
- Supports English, Dutch, French, German, Italian, Brazilian Portuguese, or Spanish.
- IPv6 is fully supported.
- Expanded set of controls and settings in the main scan dialog.

Installing the Document Scan Driver

This chapter includes:

[Installation Requirements](#) on page 3

[Obtaining the Installation Files](#) on page 3

[Installing the Driver](#) on page 4

Installation Requirements

The following are required for installing the Document Scan driver:

- The workstation must be running the Microsoft Windows XP Professional or Vista Operating Systems.
- The workstation must be able to communicate via TCP/IP with the 4112/4127.
- The 4112/4127 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

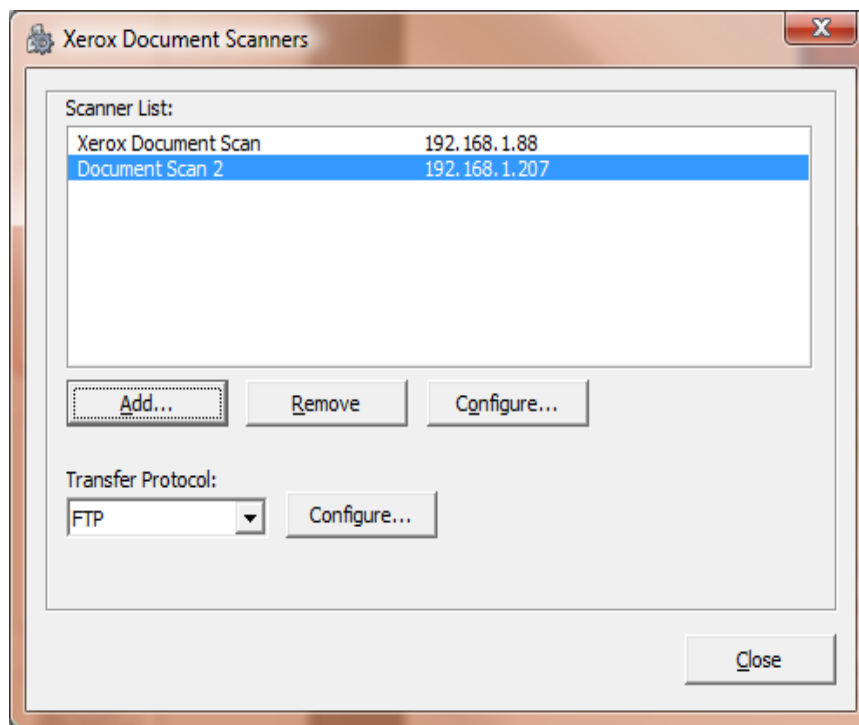
The 4112/4127 Xerox Document Scan TWAIN driver can be downloaded from www.xerox.com

Installing the Driver

1. In the **Start** menu, look for **Xerox Document Scan**. If no such menu exists, the driver is not installed: Skip to step 5.
2. Select **Start > Xerox Document Scan > Configuration**
3. In the dialog, note the **Transfer Protocol** selection, and click the **Configure** button and note any settings.
4. Select each scanner in the scanner list and click the **Configure** button, and note the settings for that scanner.
5. Unzip the install distribution archive to a temporary folder.
6. Run **Setup.exe** in the install distribution and follow the prompts.
7. When installation is complete, continue on to [Configuring the Driver](#) on page 4.

Configuring the Driver

The main configuration dialog is reached by **Start > 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](#) on page 13 and [Configuring SMB Transfer Protocol](#) on page 14.

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 6 scanners, but this limit can be increased: Contact your Xerox service representative.

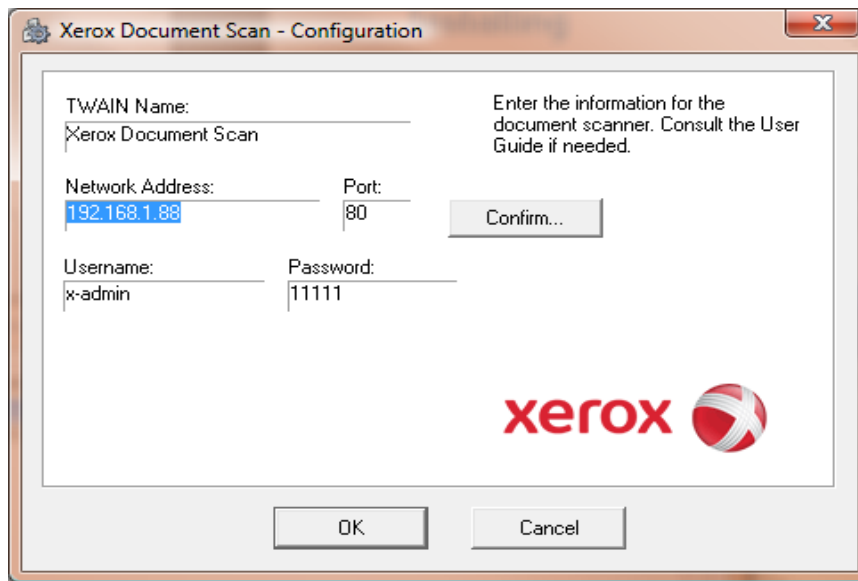
To view or change the configuration of a scanner, select it in the Scanner List and click the **Configure** button.

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

Configuring an Individual Scanner

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

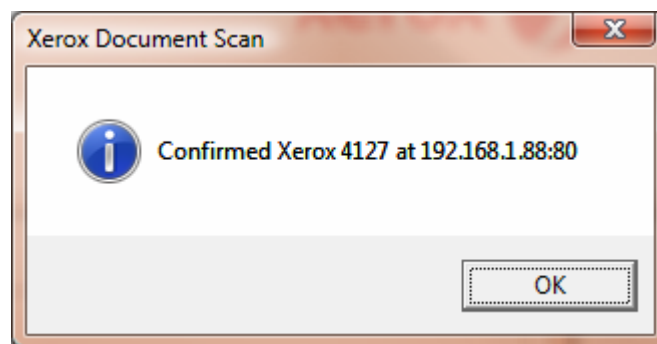
- Selecting a device and clicking the **Configure** button or
- Clicking the **Add** button



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 qualified host name of the system controller on the target Copier/Printer.

The **Port** is the device's network communication port – 80 by default and unlikely to need changing.

If 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

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

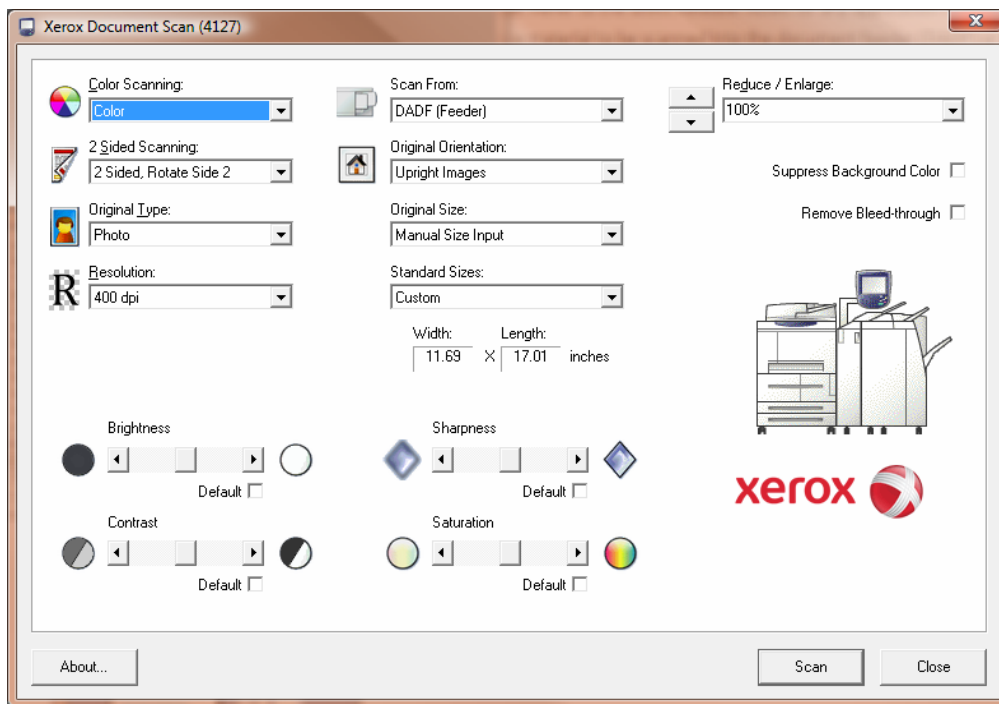
The TWAIN user interface varies widely between applications, so these notes are necessarily general.

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

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 [Main Scan Dialog](#) below.

Main Scan Dialog



This dialog has turned into kind of a monster! Let's break it down – the areas are similar to the tabbed sections on the 4112/4127 console. First, the buttons across the bottom:

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 4112/4127 scanner.

Basic Settings

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

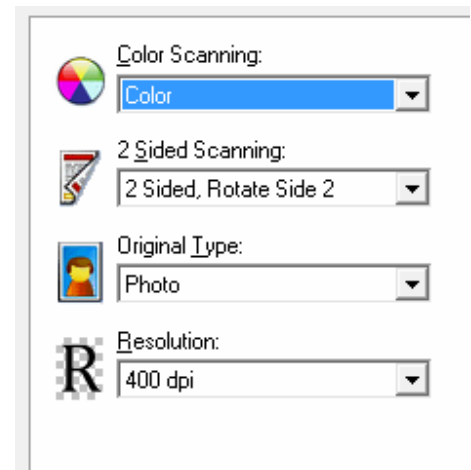
Color Scanning

Determines the range of colors used to represent scanned documents:

Black & White	two colors: Black, and White.
Grayscale	256 shades of gray.
Color	24 million colors.
Auto Detect	Scanner selects for each page.

Note: The optional Color Scan Enablement Kit must be installed in the 4112/4127 in order 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:

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

Text	pure text, perhaps with line-art diagrams.
Photo	photos, or smoothly-shaded illustrations or graphics.
Photo & Text	a mixture of text and photos. (This is the default.)

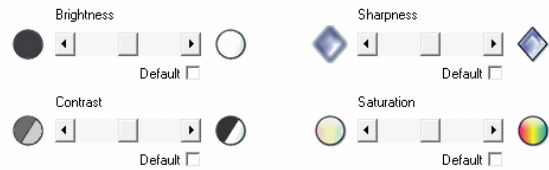
Resolution

Determines the amount of detail captured in scanning, measured in DPI (Dots Per Inch.) Available choices are:

200 DPI	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.
300 DPI	'crisp' capture of typical office and printed documents.
400 DPI	very crisp, high detail: Unusual to use for typed or printed material. Useful for high quality photographic prints.
600 DPI	Useful for high quality 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



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.

Suppress Background Color ☐

Remove Bleed-through ☐

Remove Bleed-through


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

Layout Adjustment


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.



Scan From:
DADF (Feeder)



Original Orientation:
Upright Images

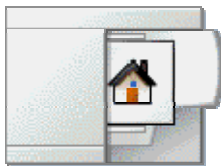
Original Size:
Manual Size Input

Standard Sizes:
Custom

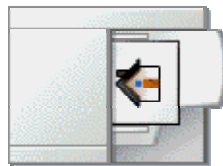
Width: 11.69 × Length: 17.01 inches

Original Orientation

Describes how documents are *oriented* relative to the feeder or platen:



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 <i>Standard Sizes</i> , next.

Standard Sizes

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

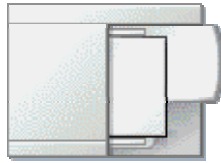
A variety of paper sizes are listed, such as:

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.

Standard Sizes:

Custom

Width: 11.69 × Length: 17.01 inches

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.

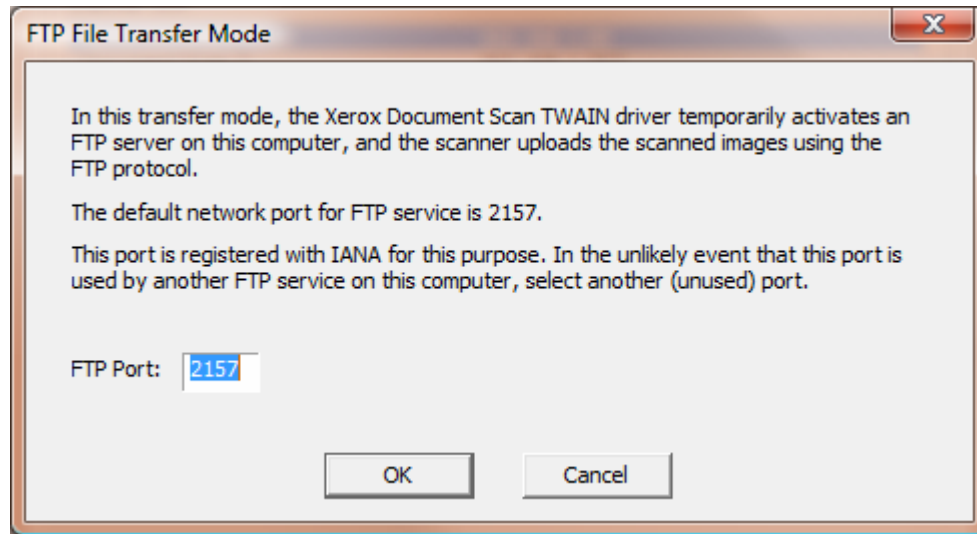
The minimum value is 25%, and the maximum value is 400%. An information dialog is displayed if you try to scan using a value outside this range.

Reduce / Enlarge:

100%

Configuring FTP Transfer Protocol

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



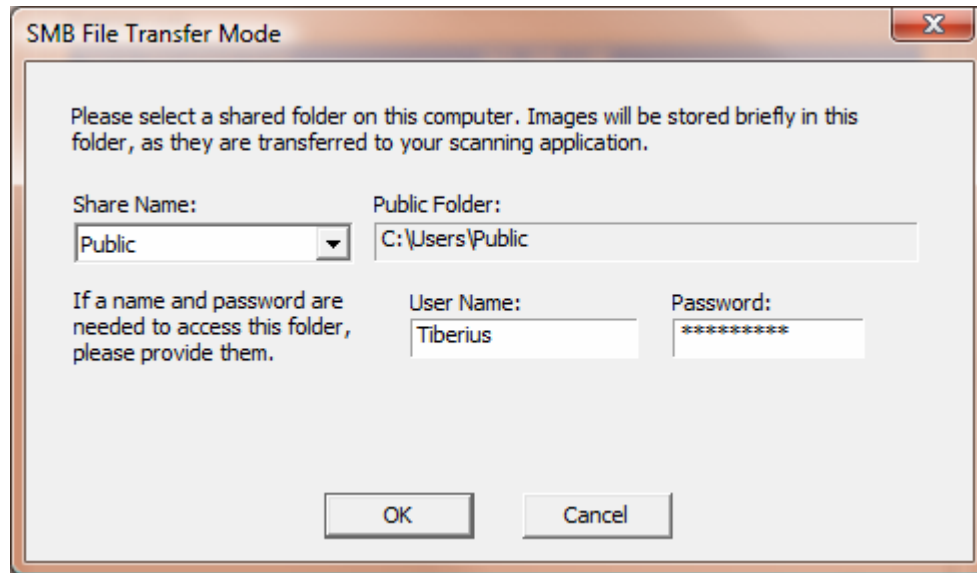
The only setting is as shown the network port to use. It is very unlikely that this port will be in use, which would be the only reason to use a different port number.

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 this use by IANA, it is not the customary port for FTP service.

Configuring SMB Transfer Protocol

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.

1. Before SMB transfer mode can be used, the workstation must be configured:
 - a. 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.**
 - b. 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.
2. 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

1. 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:
 - a. Run the **Configuration** utility, from the **Start** menu, under **Xerox Document Scan**.
 - b. Select **SMB** as the **Transport Protocol** and click the adjacent **Configure** button.
 - c. Note the **Public Folder** and **User Name**.
 - d. Cancel out of the **Transfer Mode** and **Document Scanners** dialogs.
 - e. Use standard Windows procedures to delete the public folder.
(Caution: That folder should contain only numbered image files or nothing at all.)
 - f. Use standard Windows procedures to delete the associated user account, if desired.
2. Go to the installed software list:
 - Windows XP: Use **Control Panel > Add or Remove Programs**
 - Windows Vista: Use **Control Panel > Programs and Features**
3. Select **Xerox Document Scan** and choose the **uninstall** option.
Follow the on-screen prompts, if any.

Advanced Technical Information

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 nd scanner)
xnsdds3.ds	...
xnsdds4.ds	...
xnsdds5.ds	...
xnsdds6.ds	copy of the driver for unit 6 (6 th 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.

The number of available slots in the scanner list (see Managing the Scanner List on page 5) is equal to the number of sequentially-numbered .ds files. Deleting **xnsdds6.ds** will reduce the number of slots to 5, copying **xnsdds.ds** to **xnsdds7.ds** will create a 7th slot for a scanner.

The driver stores 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 4) 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, by connecting to the shared folder. Confirm that you can remotely create a subdirectory in that folder, and create a file within the subfolder.

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