

65 ppm Production Scanner TWAIN Driver
Version 3.00
Software Release Notes



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1 Introduction

NOTE: Do not install TWAIN Driver version 3.00 unless you also have version 5.x of the 65 ppm Production Scanner firmware.

This version is NOT backwards compatible with 65ppm Production Scanner firmware version 4.x or earlier.

This document contains release information about the 65 ppm Production Scanner TWAIN Driver version 3.00 software. This information is intended to make you aware of known problems with the software. Future releases of the TWAIN Driver will have their own release documentation detailing which problems have been resolved, as well as any features that have been implemented to further improve the product.

TWAIN is a standard software protocol and application interface (API) for communication between software applications and image acquisition devices.

Negotiation of scanner capabilities occurs between the TWAIN application (which describes what it wants) and the TWAIN Driver data source (which defines the data it can provide, based on scanner capability).

The TWAIN Driver supports all three TWAIN transfer modes—native, disk file, and buffered memory.

Version 3.00 of the TWAIN Driver will be available in English, French and German.

The purpose of this document is to identify known problems and limitations with the release, along with any recommended workarounds where they are known.

1.1 Release Overview

TWAIN Driver version 3.00 has been tested with ImageSmart Document Mastering version 2.10/SmartBoard 1.1.

TWAIN Driver version 3.00 is a recommended version for use with the ImageSmart Document Mastering version 2.1/SmartBoard 1.1 to avoid threading problems on Windows NT 4.0 systems. See section 1.2 under Enhancements for more details.

The TWAIN Driver enables the capturing of images from the 65 ppm Production Scanner using the TWAIN software protocol. **Version 3.00 of the TWAIN Driver supports only version 5.x of the 65 ppm Production Scanner firmware.**

The TWAIN Driver adheres to the architecture and specifications documented in *the TWAIN Specification Version 1.8*, which was ratified by the TWAIN Working Group Committee as of October 22, 1998. This makes the TWAIN Driver version 1.8 compliant.

The TWAIN Driver has been tested using the Windows NT 4.0, 2000, and Me operating systems.

The TWAIN Driver has been tested with Adobe Acrobat 5.0 as the requesting TWAIN application.

The TWAIN Driver has been tested using Quality Logic's test tool to verify its version 1.8 compliance. This tool helps verify that the TWAIN Driver supports and passes all of the

mandatory operations, capabilities, and error handling functions associated with TWAIN version 1.8.

The TWAIN Driver can run and display its own user interface, or it can run in what is termed a 'headless' TWAIN mode, where the TWAIN application suppresses the display of the TWAIN Driver's user interface. In this mode, the TWAIN application can either provide its own user interface or not display any user interface.

It is possible that not all of the scanner capabilities will be displayed on the TWAIN Driver user interface. This can occur if a TWAIN application does not support and does not negotiate that particular scanner feature with the TWAIN Driver.

The TWAIN Driver will support the return of compressed or uncompressed data to the requesting TWAIN application. The type of image data returned to the TWAIN application is negotiated between that application and the TWAIN Driver.

The TWAIN Driver for the 65 ppm Production Scanner has been designed such that the scanner will maintain 65 ppm scanner speed for 600 dpi, 1 bit, 1-sided, 8.5 x 11 originals. If the user requests 8 bit images, the scanner speed will slow as the amount of image data gets larger.

There may be some wait time after all images have been scanned until they have all been requested by/transferred to the TWAIN application. This wait time depends on the size of the image.

The user can select Preview mode if it is necessary to modify the Image Quality settings for an area on an image. The scanner scans 1 image at a time and allows the user to define an area(s), select Image Quality settings for that area, and preview those changes prior to saving the image. The Image Quality settings can be modified and previewed multiple times before the final image is saved.

At install time, the user shall be able to select the default paper size and default unit of measure to use in the TWAIN Driver. In order to change the defaults for paper size and unit of measure, it will be necessary to reinstall the driver. Language switching is done via the control panel.

1.2 Release Functionality

Version 3.00 of the TWAIN Driver provides acquisition of images from the 65-ppm Production Scanner. This version is backwards compatible with previously defined Scan Ticket files (.stf).

General Scanning Features

Users can:

- Fully define/characterize their originals.
- Select 200, 300, 400, 600, and 1200 dpi.
- Crop and/or erase the top, bottom, left, and/or right sides of images.
- Select the image quality features desired for scanned images.
- Rotate scanned image data to user orientation.
- Scale scanned images.

General Driver Features

The driver allows the user to:

- Save scan tickets and load previously saved scan tickets.
- View the summary of the current scan settings.
- Switch between inches and millimeters.
- View the current scanner status, including the number of the image being scanned and the number of the image being transferred back to the requesting TWAIN application.
- View error dialogs that assist users in clearing jam and error conditions.
- Preview Mode allows the user to enhance image quality settings for selected areas of an image.

The TWAIN Driver contains on-line Help to assist users in understanding the features that are available to the user based on the negotiation of features between the TWAIN application and the TWAIN Driver.

Enhancements

Version 3.00 of the TWAIN Driver offers the following enhancements:

- Built with newer version of an imaging toolkit to help avoid threading problems on Windows NT 4.0 systems.

For customers with Network Imaging System release 5.x, 65ppm Production Scanner firmware 5.x, this is a recommended version for use with the ImageSmart Document Mastering version 2.1/SmartBoard 1.1 to avoid threading problems on Windows NT 4.0 systems.

Background on problem

Microsoft limits the number of thread local storage (TLS) slots that can be started within any one process. For NT 4.0 systems, that limit is 64. Anything that can be accessed from Adobe Acrobat has the potential to take up a TLS slot. Plug-ins or drivers developed using Microsoft Foundation Classes take up at least 1 TLS slot. Adobe Acrobat itself takes up about 44 slots. This thread limitation can manifest itself in Adobe Acrobat through lost functionality or crashes outside of our control.

For example, if a plug-in is loaded that takes up several TLS slots, there may no longer be any threads for dynamically allocated processes like Acrobat's Search, Web Capture or Scanning interfaces. With Windows NT 4.0 the limit can be reached by installing ImageSmart Document Mastering 2.1 Suite plus a few third party plug-ins. There is no absolute number of plug-ins or drivers that can be loaded; it depends on how they are written, which external resources they use, and when they are loaded.

When the problem occurs, the system could crash because a needed TLS slot cannot be allocated, or a connection may show no progress, or maybe the IQ Database for scanning cannot be accessed, or the 65 ppm scanner will not show up in the list of available scanners. The problem can manifest itself many ways.

It is highly unlikely the problem will be encountered in Windows 2000. The allowed threads per process are so high in Windows 2000 (1088) that it should never limit the number of Acrobat process threads. Low risk modifications were made to minimize the number of threads required by the Document Mastering Suite 2.1 and 65 ppm Production Scanner TWAIN driver. However, while this improves the situation, it cannot completely solve the TLS limit problem.

Customers can use the Document Mastering Suite 2.1 functionality (Quite Imposing Plus, StampPDF, SmartBoard, Image Editor, Adobe Acrobat), including the ability to scan using the TWAIN driver version 3.0, without running into any TLS problems provided there are no other 3rd Party Plug-ins installed and a document library is not used.

There should be no problems using Photoshop in conjunction with the Document Mastering Suite and TWAIN Driver scanning since Photoshop does not add to the TLS load.

If the desire is to run the Document Mastering version 2.1/SmartBoard 1.1, scan with the TWAIN driver and utilize a document library, the recommendation is to run on a Windows 2000 system. The alternative would be to move Acrobat's Intertrust, Movie and WebPDF plug-ins to Acrobat's Optional folder to free up some TLS slots. If these plug-ins are moved to the Optional folder and no other 3rd Party plug-ins are loaded, the NT 4.0 system should be able to run and support the Document Mastering 2.1 Suite, scanning and the document library.

Enfocus product users can use the full Document Mastering Suite version 2.1 functionality, including scanning, with few problems provided that they do not use the document library and do not add other 3rd party plug-ins. Problems occur after a search or if a web download is running in the background and a scan is attempted. This will result in a warning message. At this point, work should be saved and the program exited. A scan can then run without any problems when the user starts Acrobat again.

2 Known Problems Resolved

a) Transfer rate slower with TWAIN driver 2.0/2.1 vs. 1.0

A problem was found and updates made to minimize this problem.

b) Running the TWAIN Driver from an account without administrator privileges causes the Image Quality database to be unavailable.

c) The TWAIN Driver may display 2 identical jam messages, then close unexpectedly.

This was an intermittent and rare occurrence. It involved creating a jam condition, removing the remaining paper from the ADF, and continuing with the job. The jam message reappeared, and the driver may have closed unexpectedly after that, with no documents transferred to the host application.

d) Decimal separator now correctly supported. When regional setting is changed, TWAIN driver will correctly reflect that decimal separator.

e) General SCSI errors after changing Area Properties->Original type from the Preview dialog.

f) Incomplete message when cancel TWAIN Driver Preview mode changes.

If the user makes some modifications to the Image Quality properties of an area in Preview Mode, previews the changes, then selects Cancel, the confirmation message now reads "Reset all scan settings to default job settings?"

g) General SCSI errors for 11 x 17 with 200/400/600 dpi.

h) Continuing after "Imageable size is too large ..." warning sometimes leads to last page of scan job being scanned but not processed.

This was an intermittent and rare occurrence for a select range of paper (usually A4), scaling, cropping, and other options. The general scenario involved a multiple sheet ADF job and may have involved one of the following warning messages:

- "Could not complete acquisition because of a problem with the device."
- "Imageable size is too large using current scan settings. Only partial images will be captured for all originals."

i) Unable to type in negative character, "-", in the Contrast and Darkness edit fields on the Image Quality tab.

j) Selecting Reset on the Image Quality tab fails to reset the Scaling values back to default.

k) Contrast and Darkness options muted in Preview mode on Area Properties when change Original Type to Photo.

l) Platen scanned instead of last image when scanning duplex and Input Source is Auto in Preview Mode.

3 Known Problems/Limitations and Workarounds

a) **Unknown scanner status when scanner optical carriage moves past the home position.**

The scanner status area indicates that the scanner is in an Unknown state (no communication with scanner). No scanning can take place. The amber error light on the scanner stays on even after rebooting. The optical carriage on the scanner does not move during the power-up cycle.

- *Workaround*

None. If the scanner does not initialize or scan properly, the scanner is probably in this state. Service must be called.

b) **Cannot locate the Image Quality database on a workstation that also contains the Network Imaging System Scan Workstation software**

If the Network Imaging System scan workstation software is on the same machine as the TWAIN driver, only 1 application can access the Image Quality database at the same time. This means that if the TWAIN driver is running, the Scan Workstation application cannot be used. If the Scan Workstation application is running or has been running and Orbix daemon is still running, the TWAIN driver cannot run at the same time.

- *Workaround*

Run either the TWAIN driver **or** the Network Imaging System Scan Workstation software. Make sure Orbix is not running if you want to start the TWAIN driver.

c) **Selecting Format of Double-sided on the Acrobat scan screen causes pages to be captured in Book pagination format.**

Images returned to the TWAIN application will appear out of order.

- *Workaround*

Always select Single-sided format on Acrobat scan screen unless a book order is desired.

d) **Mixed size originals cannot be scanned in the same scan job when using the TWAIN Driver with Acrobat 4.0/5.0 application.**

An acquisition error in Acrobat will occur if mixed original sizes are scanned together.

- *Workaround*

Use one size originals for each scan job when using Acrobat.

e) **Auto Detection of original size scanner feature will not be available with some applications.**

Adobe Acrobat, Adobe Photoshop, and AdHoc Docs currently do not support or negotiate for automatic original size detection.

- *Workaround*

None required by user. The driver will only list those features on the user interface that the TWAIN application negotiates. Since the applications listed above do not negotiate for this feature, it will not be displayed on the user interface.

f) Duplex setting is not maintained between sessions with AdHoc Docs.

This is an issue with AdHoc Docs not negotiating certain features from the TWAIN Driver. The result is that the duplex setting is not maintained between sessions of the driver.

- *Workaround*

You must set up the job, including the duplex or simplex setting, at the beginning of each session.

g) The TWAIN Driver locks up if the stop button on scanner is pressed during Preview mode.

The driver is not really locked; it just requires input to start, since the user does not have access to the Scan or Continue buttons on the main TWAIN Driver dialog when in Preview mode.

- *Workaround*

Click the Green button on the scanner, then click Next on the Preview user interface.

h) The Save button is always enabled on the Preview dialog.

The Save button should not be available if no area(s) are selected in Preview mode, the scanner is not ready, or Save has just been selected.

- *Workaround*

None.

i) Scanner starts scanning when Preview mode is closed if more originals are left in ADF.

If the Continuous Mode checkbox is selected prior to entering Preview mode, upon exiting Preview mode and if there are still originals in the ADF, they will automatically be scanned without any user intervention required.

- *Workaround*

If the Continuous Mode checkbox is not selected prior to entering Preview mode, any remaining originals will not be scanned when Preview mode is closed. However, this case causes each individual image to be returned to the requesting application when that image is completed and saved. The user is then required to reselect Preview mode for each remaining image that needs adjusting.

j) Edge Erase parameter for Side 2 taken from Side 1 setting when scanning duplex from buffer in Preview mode.

If you set an Edge Erase value on Side 2 that is different than the Edge Erase value on Side 1 and then select Preview mode, you may not get the appropriate amount of erase on Side 2. The scanner currently does not use the Side 2 erase value for Side 2 when doing a scan from buffer. Instead, the Side 1 erase value is used.

- *Workaround*

Before entering Preview mode, make sure that the Edge Erase value for Side 1 is the same as that for Side 2 (if you are scanning duplex).

k) Cropping value for page 2 causes a TWAIN driver crash.

Select Originals->Size paper.

Select Originals->Sides->2-Sided Short Edge or 2-Sided Long Edge. Put originals in the ADF. Uncheck Continuous Scan. Set cropping value for top on side 2 to different value than the cropping value for top on side 1.

Scan side 1 and then scan side 2. Crash will occur after side 2 is scanned.

- *Workaround*

Run job in Continuous Scan mode.

l) Issues discovered during viability testing with Alto software application with the TWAIN driver.

1. Image quality of displayed documents is worse than Acrobat.
2. Problems scanning large jobs. Example: 100 originals, 2-Sided Flip on Long Edge. Scanner stops scanning and system is stopped. Memory becomes full.

- *Workaround*

Scan smaller documents.

m) Ad Hoc software "Imageable size too large" scenario causes paper jam.

Put Tabloid document in ADF. Check Landscape Paper box. Select Originals->Size of Tabloid. On the Image Size tab, set Preset Scaling for X and Y to 141%. Select Preview.

Message is displayed that indicates "Imageable size is too large using current settings. Only partial image will be captured for all originals." Select OK.

Scanner does not completely scan the entire page and leaves about an inch of paper hanging at the exit area of the scanner. A message is displayed indicating a paper jam.

- *Workaround*

Modify Preset scaling for X and Y to 100%.

n) Strange behavior of X direction Cropped Image Size spin box.

This occurs only for papers that are Landscape papers. Check the Landscape Paper checkbox. Select Image Size tab and cropping. The spin box originally displays 353.00 mm. Set the cursor in the X

Cropped Image Size spin box. Push the down arrow button on the keyboard to reduce the cropped value. The steps of the reduction should be in 0.01 mm increments. Instead, on the first cursor down event the value jumps to a much lower number.

- *Workaround*

Manually enter a cropped image size value if you cannot get to your value using the spin box.

o) Status area may not reflect the actual number of transferred images for platen scans.

Select Originals->Input Source->Platen.

While scanning, observe the Status area. Notice that the status indicates "Scanning Image 1" and "Transferring Image 1".

Scan the next page. The status message area indicates "Scanning Image 2" and "Transferring Image 1".

- *Workaround*

None required. This problem does not affect the output image acquisition.

p) Lose focus for the Image Preview window.

Put a document into the ADF. Select Preview. In the Preview dialog, select Save or Next. Focus of the Preview window is gone and it is not possible to do anything with the mouse.

- *Workaround*

Click the Tab key to get to the Next and Done selection on the Acrobat Scan plug-in box.

q) Symmetric checkbox state not saved in .stf file

If recall a saved scan ticket, if the symmetric checkbox was checked prior to saving the scan settings, the symmetric checkbox will not be set when the scan ticket is retrieved.

- *Workaround*

None.