

# Selecting a Scanner for use with the CS Professional Suite™

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As you consider implementing *FileCabinet CS™* and/or *Engagement CS™* in your practice, you will soon realize that you need to choose a scanner. To make the right decision when selecting a scanner, you need to look at technical considerations in addition to your current business processes. This white paper provides some background on scanner basics and, by pointing out elements that vary from one scanner to another, will help you understand the factors that you need to consider when choosing a scanner.

## Scanner basics

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The following basic information on scanner compatibility and connectivity will help you make an informed purchasing decision.

### The TWAIN interface

The TWAIN interface is required for scanning directly into *FileCabinet CS* and *Engagement CS*. With TWAIN, you can access the scanner via the destination software, and scan an image directly into the application. You don't have to scan an image into one program and then export the image to another program. TWAIN is the standard for scanner control software — most scanners available today meet the TWAIN requirement. Listed below are resources for finding more information about TWAIN drivers.

- <http://www.adobe.com/support/techdocs/316916.html>
- <http://www.twain.org>
- your scanner manufacturer's website

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### Notes

- Windows Imaging Architecture (WIA) drivers included with Windows® XP are generally TWAIN compliant.
  - *CS Professional Suite* software does not currently support ISIS® (Image and Scanner Interface Specification).
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## Attaching the scanner to your computer

Scanners typically connect to a computer using one of four methods: parallel port, USB, SCSI, or IEEE 1394.

**Parallel port** — Parallel port connections are the oldest and slowest way to connect a scanner to your computer. To use a parallel port connection, you plug a parallel cable into the parallel printer port on the back of your computer.

Because parallel port connections are the slowest of the available interfaces and can cause printer problems or other types of problems (as data can lose integrity during its passage from the scanner to the printer), Creative Solutions does not recommend the use of parallel port scanners.

If you have both a parallel port printer and a parallel port scanner, you connect one end of a parallel cable to the printer port, connect the other end to the scanner, and then connect a second parallel cable between the scanner and the computer, allowing the print data to pass through the scanner to the printer.

**USB (Universal Serial Bus)** — A scanner with a USB interface is as easy to attach to your computer as a parallel port scanner; you simply plug the USB cable into one of the USB ports on your computer. USB connections operate significantly faster than parallel port connections.

Nearly all of today's computers possess at least two USB ports, allowing you to connect multiple USB devices, including USB printers. Currently, there are two revisions of USB: USB Rev. 1.1 (released in 1998) and USB Rev. 2.0. (released in 1999). The primary difference between the revisions is in data-transfer speeds. USB 1.1 transfers data at up to 12 Megabits per second (Mbps) and USB 2.0 transfers data at up to 480 Mbps. USB 2.0 devices can be used with USB 1.1 ports but are limited to the USB 1.1 transfer rate in such cases.

**SCSI (Small Computer System Interface)** — SCSI (often pronounced “scuzzy”) is the fastest interface available for connecting your computer and scanner. SCSI is generally more expensive than USB and requires a SCSI port on your computer. A SCSI interface also usually requires your computer to have a SCSI adapter card, which you may have to install yourself. Although many SCSI-based scanners come with a SCSI card for your computer, you may have to purchase one separately.

**IEEE 1394 (“FireWire<sup>®</sup>”)** — A fast external-bus standard that supports data-transfer rates of up to 800 Mbps (at the IEEE 1394b standard), IEEE 1394 is similar to USB 2.0. Products using the IEEE 1394 standard go by different names, depending on the manufacturer, but are generally referred to as “FireWire” devices. FireWire scanners are usually more expensive and are primarily used by graphics professionals. FireWire devices support both plug-and-play (which means they require no additional configuration after installation) and hot swapping (which means they can be connected and disconnected without interrupting system operation).

## Scanner specifications

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The many different types of scanners available today provide almost limitless flexibility in style, capability, and price range. The following section introduces many of the specifications you need to consider when evaluating scanners.

- **Color vs. monochrome** — If you scan only black-and-white documents, you may not need a color scanner. However, if you anticipate scanning photographs or color documents, you will probably want to choose a color scanner.

- **Optical resolution** — A scanned image is composed of thousands of small samples or “dots.” Resolution is the number of dots per inch (dpi) that the scanner can record. The higher the resolution, the higher the quality of the scanned image. However, higher-resolution images take longer to scan, and require more storage space on your hard drive.

For most scanning applications, including scanning regular black-and-white text, 100 dpi is usually sufficient. Higher-resolution scans require more storage space. *FileCabinet CS* and *Engagement CS* automatically reduce directly scanned images to 100 dpi.

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*Note:* If you import already-scanned and saved images into *FileCabinet CS*, their dpi will not be reduced.

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- **Color depth** — Most scanners today have at least a 30-bit color depth, which should allow you to adequately scan text, pictures, and slides. A higher-end 24-bit scanner can also produce great results for most applications. For most color documents, scanning at a much lower color depth is appropriate. In many cases, scanning in 1-bit color depth will produce acceptable results.
- **Scanner software** — In addition to a TWAIN driver, most scanners come with software for scanning text and pictures. Most of this additional software can be added later, if needed. The TWAIN driver is required for scanning documents directly into *CS Professional Suite* applications.
- **Speed** — The speed at which a scanner operates depends on both the speed of the scanner (number of pages per minute) and the type of interface connecting the scanner to your computer. Other factors, such as memory and CPU speed, can affect your scanning speed. You need to consider these factors to achieve optimal balance between scanning costs and your speed and productivity.
- **Other features** — Other features you might want to consider when choosing a scanner include:
  - maximum and minimum page size
  - warranty and service options
  - page cleanup features, such as auto deskew

## Business processes

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To choose a scanner that integrates most efficiently with your working style, you will also need to look at the business processes in your firm and examine your future plans as you move toward implementing a paperless office. Here are some of the factors you will want to consider.

### FileCabinet CS

- **Items to be stored** — What will you store in *FileCabinet CS*? Will you simply store tax returns? Will you store miscellaneous client documents, including client organizers, copies of W-2s, or 1099s? Or will you store as much information as possible, including real estate documents, photographs of fixed assets, and magazine articles? What about irregularly sized items? Are your clients' matters fairly simple or complex?
- **Users** — Who will use the scanner? Tax preparers only? Support staff? Would it be worthwhile to have scanners for multiple workstations?
- **Complexity of the returns** — If you process complex returns of 30 to 40 pages each, you will probably also want to scan larger numbers of related documents. You will want a scanner that can handle all of your documents efficiently.
- **Equipment location** — Verify that each scanner is located in a place that is convenient for all potential users.

See the “Implementing the Paperless Office” white paper for more information on these and other related considerations. You can access this document by visiting the Creative Solutions website at [www.CreativeSolutions.Thomson.com](http://www.CreativeSolutions.Thomson.com) and clicking the White Papers link in the Resources area of the Products & Solutions page.

### Engagement CS

- **Users** — Who will use the scanner? Do you need a network scanner, or do you need individual scanners to be available to a few specific engagement staff? Do engagement staff members need to scan documents while working in the field?
- **Engagement complexity** — Will the engagement have a large number of paper files? Would those paper files need to be added to client drawers in *FileCabinet CS*? Will your staff need to scan documents of different sizes? You will want a scanner that can handle all of your documents efficiently.
- **Equipment location** — Verify that each scanner is located in a place that is convenient for all potential users.

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**Note:** If you typically scan more than 500 pages per day, you may want to consider purchasing a high-speed scanner.

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## Types of scanners

Scanner Type	How it works	Pros	Cons
<b>Sheet-Fed Scanner</b>	Photographs or documents to be scanned are fed into the scanner one at a time.	<ul style="list-style-type: none"> <li>• Can scan many pages in a row</li> <li>• Takes up very little space</li> <li>• Can scan photographs, text, or single-page documents</li> <li>• Scans quickly</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot scan books, magazines, or anything other than single-page documents</li> </ul>
<b>Flatbed Scanner</b>	Place items to be scanned on scanner bed. Many flatbed scanners can be sheet-fed with an attached document feeder.	<ul style="list-style-type: none"> <li>• Is extremely versatile; scans just about anything: photographs, documents, magazines, books, other objects</li> <li>• May include an automatic document feeder (giving it the Pros of a sheet-fed scanner without the Cons)</li> </ul>	<ul style="list-style-type: none"> <li>• May take up more space</li> </ul>
<b>All-In-One Scanner</b>	All-in-one units typically consist of a printer, scanner, copier, and fax machine. They are available in both laser and inkjet varieties.	<ul style="list-style-type: none"> <li>• Very cost effective, sharing internal components</li> <li>• Conserves space — one unit takes the place of three machines</li> </ul>	<ul style="list-style-type: none"> <li>• May not excel in any of its functions</li> </ul>

## Examples of scanner types

Generally, when moving from lower-cost to higher-cost scanner models, the maximum optical resolution increases as well as the overall scanning speed of the unit (prices vary depending on the vendor selected). Many scanners include automatic document feeders (ADFs) for scanning multiple pages. For the most part, any of the scanners listed in the following table will scan black-and-white documents adequately for use with *FileCabinet CS* and *Engagement CS*.

The scanner will become an essential piece of equipment in accounting firms in the 21st century. We hope this information helps you make the best decision when purchasing a scanner for your practice.

**Note:** The scanners listed below are examples of only some of the scanners that have been recommended by Creative Solutions users on the ARNE 2 discussion board, which is available to all Creative Solutions customers through our website at [www.CreativeSolutions.Thomson.com](http://www.CreativeSolutions.Thomson.com). **Creative Solutions does not recommend or support any scanners.** As with all computer and peripheral equipment, scanner manufacturers introduce and discontinue scanner models on a regular basis. For the most current scanner information, visit the manufacturer's website, or for the most current scanner recommendations from Creative Solutions users, visit the ARNE 2 discussion board.

Type	Name	Connection	Resolution	Color / B/W	Price	Speed	Notes
Flatbed	Visioneer 9650	USB	600x1200	Color	\$550	12 PPM	25-sheet document feeder; 8.5x14 maximum size
Flatbed / Sheet-Fed	Fujitsu 5120c	Ultra-SCSI / USB	600x600	Color	\$959	25 PPM	50-sheet document feeder; duplex scanning; 8.5x14 maximum size
Flatbed / Sheet-Fed	Canon DR-2580c	USB 2.0	600x600	Color	\$739	25 PPM	50-sheet document feeder; duplex scanning; 8.5x14 maximum size
Sheet-Fed	Fujitsu 5110c	USB 2.0	600x600	Color	\$729	15 PPM	50-sheet document feeder; duplex scanning; 8.5x14 maximum size
Sheet-Fed	Xerox Documate 262	USB 1.1 or 2.0	600x600	Color	\$1,195	33 PPM	50-sheet document feeder; duplex scanning; 8.5x14 maximum size