ENERGY STAR Scanner Buying Guide

Buying a scanner that meets ENERGY STAR requirements can result in significant energy savings for businesses. This scanner buying guide will help you determine the type and features that will meet your business needs and enable you to save on energy costs.

Some features that can result in significant savings are sleep modes and automatic shut offs, which automatically place the scanner in a reduced power state after a specified period of inactivity.

These and other features that reduce energy use will be discussed in the buying guide.

Consider the Scanner Types

Flatbed scanners: Flatbed scanners can scan material from objects of different sizes and thickness, from single sheets to thick books (similar to copiers). Large-format scanners can scan legal-size documents.

Sheetfed scanners: Sheetfed scanners use an automatic document feeder (ADF) (similar to fax machines). A stack of documents can be placed in the ADF to be scanned in a batch without user manipulation; unlike a flatbed scanner for which each image has to be manually placed on the glass plate before scanned. Unlike a flatbed scanner, it can only scan loose pages. Sheetfed scanners are ideal for scanning large batches of documents.

Business card scanners: Business card scanners extract both images and data from business cards and store that data with contact manager software (e.g., Microsoft Outlook).

Handheld scanners: Handheld scanners can fit in-hand or be attached to a portable scanner. The most common use of handheld scanners is as barcode readers, but handheld scanners are capable of a variety of uses including scanning fabrics and heavy books. Handheld scanners are light and portable, but their disadvantages include limited scan size and human error caused by shaky motion.

Portable scanners: Ideal for business travel, portable scanners are larger than handheld models, but smaller than traditional flatbed scanners.

Photo scanners: Photo scanners are high-resolution processors capable of scanning photo negatives and producing high quality enlargements.

Drum scanners: Drum scanners produce high-resolution images and are typically used by graphics professionals and the printing industry.

Consider Your Primary Scanning Needs

What are your image quality needs?

Image quality is determined primarily by three key features and specifications: sensor type, bit depth, and resolution.

Sensors – The two primary types of sensors are charge-coupled device (CCD) and contact image sensor (CIS). CCD scanners typically produce better image quality, but CIS scanners tend to be more compact and durable. Another type of sensor, photomultiplier tubes (PMT), is used in drum scanners and creates more detailed scans.

Bit Depth – The number of bits that a scanner picks up from each pixel within an image is referred to as the bit depth. The bit depth determines the number of true shades of gray that a scanner can capture.

Scanners with higher bit depths can capture higher image quality. Some manufacturers use a 24-, 30-, and 48-bit scale. A minimum bit depth of 24 is suggested for text scans, 30 for slides and negatives, and 36 to 48 for photos and color graphics.

Resolution – Resolution is measured in dots per inch (dpi) or pixels per inch (ppi). There are two kinds of resolution: optical resolution (the number of pixels a scanner can see) and enhanced resolution (the number of pixels the scanner can estimate values for based on the pixels identified by the optical resolution). Optical resolution is more important than enhanced resolution as enhanced resolution often results in a lower-quality image. A minimum resolution of 300 dpi is suggested for text scans and 1,200 dpi for slides and negatives. For photos or graphics that will be posted online, a minimum resolution of 600 dpi is recommended; for photos or graphics that will be printed, a resolution of 1,200 dpi or higher is recommended.

How fast does the scanner need to be to meet your workload demands?

Scanner speed is the number of pages that can be scanned per minute. In general, you want to find a model that has higher speeds while producing good results. Note that higher resolution scans take longer and will influence speed specifications.

Consider your usage levels during a typical month and whether usage is consistent throughout the month or if the heaviest volume occurs during a smaller period (i.e., the first or last week of the month). If the majority of copies are made in the final week of the month, make sure your unit can handle the necessary volume during that week.

What is the size of the originals that you will be scanning?

The size of the scanning area dictates the size of the original that can be scanned with each pass. Sheetfed scanners can only scan single sheets. Flatbed scanners are available in larger formats that can scan legal-size documents or larger.

Evaluate Scanner Features and Specifications

Sleep mode: A reduced power state that the scanner automatically enters after a period of inactivity or at a user-set time of day (after business hours). ENERGY STAR requires a default of 15 minutes of inactivity before entering sleep mode. An important consideration when purchasing a scanner is the amount of time it takes a scanner to achieve an active state from sleep mode.

Automatic shut-off: Similar to a sleep mode, an automatic shut-off option saves energy and decreases wear on a scanner. However, an automatic shut-off option powers the machine off completely rather than putting it in a reduced power state. This saves more energy, but the machine will take longer to achieve an active state if the automatic shut-off has been activated and an unexpected scanning need arises.

Automatic document feeder (ADF): Found in sheetfed scanners, an ADF allows you to scan a batch of documents without having to individually place each sheet under the cover. A stack of pages is placed into the feeder and the ADF automatically pulls each page through. General usage patterns should be considered when determining an ideal capacity for the ADF.

Duplex scanning: A feature that allows both sides of a double-sided document to be scanned during a single pass through the scanner.

Connectivity: Many scanners allow the user to scan to fax, e-mail, or save to a network. USB ports are also generally available on scanners.

References

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