ScanEasy for HP

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What is ScanEasy for HP?

ScanEasy for HP is a plug-in supporting Hewlett-Packard's family of ScanJet desktop scanners. It enables a host application (such as Adobe Photoshop) to control scanner operation and acquire images directly from the scanner.

Features of **ScanEasy for HP** include:

- modern, efficient interface
- access to host application functions while active
- full support for bitmap, grayscale and color images
- support for 10-bit grayscale and 30-bit color modes
- live preview using the host application's monitor setup
- selection and multi-level zoom in/out
- mirror, rotation and negative options
- set brightness/contrast, remove color casts
- access to advanced scanner features
- multi-threaded 32-bit implementation for optimum performance
- pervasive online help

What scanner models does ScanEasy for HP support?

ScanEasy for HP supports the following Hewlett-Packard ScanJet models:

- ScanJet Plus
- ScanJet IIp
- ScanJet IIc
- ScanJet IIcx
- ScanJet 3p
- ScanJet 3c
- ScanJet 4c

Note that the appropriate drivers for both scanner and interface card must be installed.

What software can I use ScanEasy for HP with?

ScanEasy for HP is supported by Adobe Photoshop 3.0 (and later) and any other applications that support the Adobe Acquire 3.0 plug-in architecture.

The operating systems supported include Microsoft Windows 95 and Windows NT 4.0 (and later).

How does ScanEasy for HP differ from DeskScan II?

Unlike **DeskScan II** which ships with all ScanJets, **ScanEasy for HP** is not a TWAIN module but a fully contained Acquire plug-in. As such, it has direct access to functionality provided by the host application for better integration and performance.

ScanEasy for HP has a modern interface specifically designed for efficient use. It also exploits more of the features supported by your scanner.

ScanEasy for HP will coexist with **DeskScan II**.

Installing ScanEasy for HP

To install **ScanEasy for HP**, simply copy the following files to your plug-in directory:

- ScanEasy.8BA
- ScanEasy.HLP
- ScanEasy.CNT

You must also have installed the appropriate driver files for your HP scanner. These driver files are included in current **DeskScan II** installations. **ScanEasy for HP** requires (at minimum) the following files:

- HPSJ32.DLL
- HPSCNMGR.DLL
- HPSCNMGR.HLP

For Windows NT 4.0, the following ASPI driver files are required:

- ASPI32.SYS
- WNASPI32.DLL

The latest versions of these driver files are available for download from the Internet sites **www.hp.com** and **www.adaptec.com** respectively.

Starting ScanEasy for HP

To start **ScanEasy for HP**, start your host application and open the File->Acquire menu. Select **ScanEasy for HP** from the listed plug-ins.

Finding your way around ScanEasy for HP

The **ScanEasy for HP** interface is organized around a number of pages each of which presents a group of related options. You can flip from one page to another by clicking the appropriate page tab. All changes made to options or values on a page will be preserved when you change pages. Most settings will be saved at the completion of a session and restored when you next start **ScanEasy for HP**.

To restore all values to their default (or factory) values, click the **Defaults** button. Only values on the current page will be changed.

Some pages show a preview of the scan. You can click the mouse on the preview to set some options. The function of the preview depends on which page is active. For example, on the Mode/Size page, you can specify a selection by clicking the mouse and dragging a selection border. On other pages, you can sample the preview for density or color.

When you first start **ScanEasy for HP**, an initial scan will be done so that you can see a preview of the scan. If you change or move the original, you will need to refresh the preview by clicking the **Preview** button. **ScanEasy for HP** updates the preview display automatically after each change of options so you do not need to click **Preview** after each change.

After the initial preview is completed you will probably first want to make a selection of the original then adjust the output resolution and size. You do this on the Mode/Size page. Next, move to the Brightness/Contrast page and adjust the preview to give the correct tonality. Lastly, move to the Color Balance page and make any adjustments for color casts.

When you are happy with the preview, click the **Scan** button to scan the selected portion of the original into the host application using the options you've specified. You can now review the scanned result, make any changes required, and start another scan if necessary.

Click the Cancel button when you want to terminate the **ScanEasy for HP** session.

Getting the best possible scan using ScanEasy for HP

To get the best possible scanned result you can leverage the capabilities of powerful image editing software, such as Photoshop. **ScanEasy for HP** permits transfer of the raw scanner data to the host application for absolute control in the quality of the final image.

To use Photoshop for scaling of the image, set the output **Resolution** to the optical resolution of your scanner (see the **Scanner** page) and the **Scaling** to exactly 100%. This will cause your scanner to bypass its scaling phase. In Photoshop, use the **Image Size** dialog to specify the desired output dimensions and resolution. Make sure you have bicubic interpolation turned on in your Photoshop **General Preferences** dialog.

After resampling the image, you will need to sharpen your image. Select **Unsharp Mask** from the **Filter** menu. You can experiment to see which values give the best result. Suggested starting values for **Unsharp Mask** are 100%, 1.0, 4. If the scanned image is to be printed, you may want to increase the amount of sharpening. Try not to resample your image *after* sharpening.

To use Photoshop for adjusting tonality, set the mode to the highest bit depth supported by your scanner. The ScanJet 3c/4c models support both 10-bit grayscale and 30-bit color modes. **ScanEasy for HP** can transfer this 10-bit/30-bit data unmodified to Photoshop (where it is expanded to 16-bit/48-bit data respectively). Photoshop supports only limited editing in these modes. You can use **Levels** or **Curves** from the **Image** menu to minimize discontinuities in the tonal distribution. After editing, you must either convert the image to 8-bit/24-bit mode from the **Mode** menu, or **Save** the image in a format with supports 16-bit/48-bit images.

To have your scanner bypass tonal adjustment, set the **Brightness/Contrast** values to 0/0 or use a straight line **Curve.**

Lastly, if you want access the raw colors from your scanner, enable the **Bypass color correction** option on the **Color Balance** page. You can then use channel operations to mix the colors as desired.

Getting help while using ScanEasy for HP

Full help for **ScanEasy for HP** is available by clicking the question mark icon at the top right of the window and dropping this question mark on any item displayed.

The Mode/Size page

The **Mode/Size** page is where you make a selection of the original and specify the output mode, resolution and dimensions for the scan.

The first values you will probably want to set are the output **Mode** and **Resolution**. These depend on the intended use of the scan and generally will only change when a different form of output is required.

If you require output with specific dimensions, enter the desired width and height and click the **Lock** button. If not, you can adjust width and/or height later. Next, make a selection by clicking the mouse on the preview display and dragging the selection border. You can move the selection by clicking inside it or modify your selection by dragging the edges or corners of the border. Click outside the current selection to delete it and start a new selection.

When you are happy with the selection, you can then adjust the dimensions as required. You can do this by either entering exact dimensions or changing the **Scaling** to give the desired output size.

If you want to examine your selection in more detail, click the **Zoom-in** button to re-scan the original. You can **Zoom-in** as many times as you want. If you want to revert to the previous preview, click the **Zoom-out** button.

You can also click the **Rotate**, **Mirror** and **Negative** buttons to change the output result.

The Brightness/Contrast page

The **Brightness/Contrast** page is where you adjust the scan for tonality or brightness and contrast.

You can set tonality either by specifying **Brightness** and **Contrast** values, or modifying a **Tone Curve.** Which method get used for the scan depends on which you last selected. Click the **Settings** or **Curve** button to change between the two.

If you specify Brightness/Contrast values of 0/0 or use a straight line curve you will get unmodified tonality. For most applications, this will be much too dark and have too little contrast. You can adjust the tonality by setting the appropriate values or manipulating the curve.

When using **Settings,** you can use the **Autotone** button to sample the current selection and generate Brightness/Contrast values automatically. You can then fine tune the result by moving the sliders until the preview looks to have the correct tonality.

When using a **Curve** to set tonality, you can sample the preview to set the **Black** and **White points**, then manipulate the curve points to give the emphasis desired.

The Color Balance page

The **Color Balance** page is where you can adjust for color casts in the original or introduced by the scanner itself.

By selecting a color to be made neutral (white or gray) you can remove color casts. To set this color, either sample what should be a pure white or gray in the preview or move the pointer in the color display. The preview will be updated to show the result of the color change. The tonality of the scan will not be affected.

By default, **ScanEasy for HP** is calibrated for optimal display on an average monitor.

To access the raw colors from the scanner, select the **Bypass color correction** option.

The Miscellaneous page

The **Miscellaneous** page is where you can specify a number of settings to control operation of **ScanEasy for HP**, or refine scanner operation.

The **Halftone type** selected here is the one that will be used when you select the **Bitmap (halftone)** mode.

The **Smoothing** setting will determine how pixels are combined when a scan is scaled down from its original (optical) size.

The **Grayscale bias** values determine how a color original is mapped to grayscale (on a color scanner).

The **Lamp warm time** value determines how long the scanner lamp is turned on at the start of the **ScanEasy for HP** session. This may be necessary when the scanner is used infrequently and consistent previews/scans are required.

The **Buffer count** value determines the amount of memory to be allocated to buffer the data from the scanner before it is transferred to the host application.

The Scanner page

The **Scanner** page lists the specifications and features for your scanner. All values are obtained by interrogating the scanner itself.

Registration information

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Technical support via CompuServe

Technical support for registered users of **ScanEasy for HP** is available by email on CompuServe. Make sure you have first read all documentation and online help provided.

Send your query to id **100033,340**. Include "ScanEasy" in the message title.

Includes details on:

- The version number for **ScanEasy for HP** (select About Plug-in from the host application Help menu).
- The host application name and version.
- The operating system and version.
- Your scanner model and features.

Technical support via Internet

Technical support for registered users of **ScanEasy for HP** is available by email on the Internet. Make sure you have first read all documentation and online help provided.

Send your query to **bitware@ibm.net**. Include "ScanEasy" in the message title.

Includes details on:

- The version number for **ScanEasy for HP** (select About Plug-in from the host application Help menu).
- The host application name and version.
- The operating system and version.
- Your scanner model and features.

ScanEasy for HP - ORDER FORM

Name: _____

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Address: _____

_____

_____

_____

Phone: _____ Fax: _____

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Select one:

__ Individual license (no floppy) _____ AUD $69 (US $55) _____

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Credit card: ___ Mastercard ___ Visa ___ Amex id: _____

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Click the **Scan** button to initiate the scan. The variables used for the scan will be those specified on all pages.

Click the **Preview** button to display a preview of the scanned image. When a selection has been made, this selection will be discarded and a scan of the full image area done. As the preview is dynamically updated for each change made to scan settings, it is only necessary to initiate a new preview when the original has been changed or moved.

Click the **Cancel** button to terminate the scanning session. All changes to scan variables will be preserved.

Click the **Defaults** button to restore settings on the current page to their default (factory) values. Only values on the currently displayed page will be affected.

Click the **Help** button to display general help about the application.

The settings for the scan are split over a number of pages. Click the tab of the page with the desired set of options.

The **Mode/Size** page is where you specify the output mode, resolution and scaling for the scan. You can also use this page to specify a selection of the preview and zoom in/out.

The **Brightness/Contrast** page is where you specify tonal values for the scan. This can either be single value brightness/contrast settings or a tone curve.

The **Color Balance** page is where you select a color from the preview to be made neutral (white or gray).

The **Miscellaneous** page is where sundry settings can be made. This include halftone patterns, smoothing, grayscale bias, units, lamp warm time and buffer count values.

The **Scanner** page lists specifications and features for the scanner.

The **Registration** page shows your current registration status.

This is the preview display. It is updated dynamically to reflect the current scan settings. Depending on which page is currently displayed, you can use this preview to specify (with the mouse) a selection, or sample the image for black/white points, neutral color etc. To refresh the display after the original has been changed or moved, click the **Preview** button.

Select the desired output **Mode** from the drop-down list. The preview will be updated to reflect the mode specified.

Modes include:

- **Bitmap (threshold)** - select this when the original is text, line art.
- **Bitmap (halftone)** - select this when the original is continuous tone and B&W output is desired. The pattern to be used for the halftone can be selected from the Miscellaneous page. Alternatively, scan as Grayscale and apply an error diffusion dither (or similar) from the host application to render the image as B&W.
- **Grayscale** - select this when the original is continuous tone and grayscale output is desired.
- **Grayscale (10-bit)** - select this when you want the maximum amount of grayscale information from your scanner (on later scanner models).
- **RGB Color** - select this for color originals. The output will be 24-bit color.
- **RGB Color (30-bit)** - select this when you want the maximum amount of color information from your scanner (on later scanner models).

Note: to be available for selection, the mode must be supported by both your scanner and the host application.

Enter the desired output **Resolution** (in dpi). This resolution will depend on the intended usage of the scanned image.

Note that the resolution used for the scan itself will depend on both output resolution and scaling. The current scaling may be changed as some combinations of resolution and scaling may not be supported by the scanner.

Specify the exact output **Dimensions** desired. The preview will be updated to show the current selection.

Note that the specified dimension may be altered slightly, depending on resolution, scaling and selection.

If you click the **Lock** button, the current dimensions will be locked. If you then change the **Scaling**, the selection will be modified whilst preserving the current dimensions.

Select the **Units** in which you want the output dimensions to be displayed.

You can specify the output dimensions as a percentage **Scaling** of the original (or selected part thereof). At 100% scaling the dimensions of the scan will be identical to that of the original, irrespective of resolution.

Some combinations of resolution and scaling may not be supported by the scanner.

This is the estimated size of the scanned image. The time to complete the scan will be roughly proportional to this size.

Click the **Mirror** button to horizontally flip the output.

Click the **Rotate** button to rotate the output 90 degrees counter-clockwise. The preview display will not reflect this setting.

Click the **Negative** button to invert the output tones/colors.

Click the **Zoom-in**/**Zoom-out** buttons to update the preview display. Zooming in will re-scan the original depending on the current selection. Zooming out will restore the preview display to its prior state. You can zoom in and out a number of levels. The corresponding button will only be available if a selection has been made and a prior state exists.

Note that it is not necessary to zoom in after a selection has been made. When scanning, the current selection will determine the output.

Specify the **Brightness** for the scan. Moving the slider to the right or entering a positive value will increase brightness. Moving the slider to the left or entering a negative value will decrease brightness. To set the brightness (and contrast) value automatically, click the **Autotone** button. Alternatively, click the **Curve** button to manipulate the tone curve.

Specify the **Contrast** for the scan. Moving the slider to the right or entering a positive value will increase contrast. Moving the slider to the left or entering a negative value will decrease contrast. To set the contrast (and brightness) value automatically, click the **Autotone** button. Alternatively, click the **Curve** button to manipulate the tone curve.

This is the tone **Curve**. You can use this to set the tonal values for the scan. Modifying the curve gives you more control than just setting single brightness/contrast values and is recommended if you want to make modifications to just a part of the tonal range. To modify the curve, click the anchor points and drag them to the desired position. Moving the anchor point up/down will lighten/darken the output respectively. Making the curve steeper/flatter will increase/decrease contrast.

This is a before/after readout of the percentage **Black** in the image at the point currently under the mouse pointer.

Click the **Settings** button to specify the brightness and contrast by value.

Click the **Curve** button to specify the brightness and contrast by manipulating the tone curve.

Click the **Autotone** button to automatically set the brightness and contrast values for the scan. The preview (or selection thereof) will be sampled to determine these settings. For best results, make sure a representative portion of the preview image is selected before invoking this function.

Click the **Blackpoint**/**Whitepoint** buttons to specify whether you are setting the black or white point for the tone curve. To set the black/white point, sample the preview by clicking the mouse on the darkest/lightest part of the displayed image respectively. The end points for the tone curve will be set accordingly..

When **Bitmap (halftone)** mode is selected, one of the listed **Halftone** patterns will be used to dither the image. Select the desired pattern. Note that preview display will appear a lot coarser than the scanned result.

When the output image size is smaller than the scan size (at the optical resolution) a number of input pixels will be combined to generate the output result. If the **Auto** value is selected, the scanner will automatically select the optimum smoothing setting for the current scaling factor.

To have the scanner lamp turned on for a set period of time every time the plugin is invoked, specify a non-zero **Lamp warm time** value. Warming the lamp prior to a preview/scan may give more accurate and consistent results if the scanner is used infrequently.

The **Grayscale bias** values determine the relative lightness/darkness of colors when an original is scanned on a color scanner and **Bitmap (halftone)** or **Grayscale** output mode is specified. A higher value for a color will result in a darker result for areas of the original with that color. In general, the default settings will give the most natural conversion for continuous tone originals.

The **Buffer count** value determines the total amount of storage to be allocated to buffer the data from the scanner before it is transferred to the host application. Each buffer uses 64KB of memory. If you have a limited amount of memory available you may want to reduce this value.

The **Neutral color** display provides a means to set a color from the image that should be white (or neutral) on output. This enables color casts either inherent to the scanner or in the original to be removed or reduced. A small circle shows the current color selected. You can manually move the selection by dragging it with the mouse. Alternatively, you can sample a white or gray from the preview display. The preview will be updated to display the updated colors.

The **RGB/HSV** values displayed are those of the color designated to be made neutral. Both sets of values represent the same color but in different color spaces. Note that the V (Value) component of the color is not used in generating the output transform.

Select **Bypass color correction** to deliver the raw color data from the scanner to the host application.

The **Scanner** page lists the specifications and features for your scanner. These values are generated by interrogating the scanner itself.

The **Model** is the scanner model.

The **Type** of scanner is either grayscale or color.

The **Maximum bit depth** is the number of bits supported by the scanner for grayscale and color respectively. A higher capability in the scanner hardware means that a greater density range is supported.

The **Optical resolution** of the scanner is the resolution (in dpi) of the CCD used for the scan. In general, a higher optical resolution will enable the scanner to resolve more detail in the original.

The **Selectable resolution** is the range of output resolutions supported by the scanner. The actual resolution range supported for a scan will depend on the output scaling selected. The scanner may either interpolate or smooth raw scanned data to generate output at a specified resolution/scaling.

The **Scaling** is a range of scaling values that may be specified for a scan. The actual scaling range supported for a scan will depend on the output resolution selected.

The **Maximum scan area** is the maximum dimensions of an original supported by the scanner.

The **Features** indicate whether an Auto Document Feeder or Transparency Adapter has been detected for this scanner.

If you have registered this software, enter your **License name** and **License number** *exactly as given* in the respective fields and click the **Validate license details** button. These details will be retained for future sessions.

If you have not yet registered, enter *DEMO* in the **License name** field. For information on registration, click the **Registration help** button.