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Slideshow Screen Saver

Appendix A: User Defined Filters

About Photo Factory for Windows 2.1

Introduction

Photo Factory for Windows version 2.1 offers a complete image editing and display solution to the KODAK Photo CD business or casual user. Photo Factory for Windows is a powerful, yet easy to use image editing and presentation program for Photo CD and other common image formats.

Features and Benefits

Photo Factory for Windows 2.1 is a single-program solution for loading, composing, manipulating, displaying and printing Photo CD images. It also supports importing and exporting seven other image file formats.   Enhanced by the Slideshow editor and presentation package, Photo Factory for Windows is an ideal platform for a computer based Photo CD presentation system.

Photo Factory for Windows 2.1 has many powerful and useful features, which fall into three main categories:

Related Topics:

> Display Features
> Editing Features
> File Management Features

Display Features

- Create multimedia Slideshows to run on your (or someone else's) system, complete with image, text, and sound.

- Create multimedia Screen Savers for Windows from your Slideshows.

- View available Photos in a <u>Thumbnail</u> Contact Sheet.

- Display multiple Photos at your specified resolution.

- Print high resolution photos and images to selected printers.

- Print high-quality contact sheets of Photo CD disks.

- Create Slideshows with embedded sound and text.

- Create Slideshows from seven different Image File types and Photo CD photos.

- Play Slideshows with Wave and MIDI sound.

- Play Photo slides directly from the Photo CD.

Editing Features

- Select Photos by File, <u>Thumbnail</u>, or Contact Sheet.
- Cut, Copy, and Paste selected areas via the <u>Clipboard</u>.
- <u>Crop</u>, Rotate, <u>Flip</u>, and Mirror Photos and Images.
- <u>Zoom</u> in/out on user-specified portions of the photo.
- Resize both Photos and imported images.
- Apply image and color Filters to Photos and Images.
- Color correct images with the image editor.
- Edit Slideshows with a script editor and floating Tool Bar.
- Print Slideshow script information with thumbnail images.

File Management Features

- Save photos to various file formats and resolutions.

- Convert images to seven different file formats.

- Import and display images from many different formats.

- Consolidate a Slideshow to JPEG or seven other formats from many different image file types.

- Batch convert Photo CD images from the Contact Sheet.

- Export an entire Slideshow with images, sound and Runtime Player to multiple diskettes for playing on systems without Photo Factory for Windows.

Navigating Photo Factory

Photo Factory for Windows is a powerful imaging program with many useful features. The tools available for supporting each of these features are automatically presented when the feature is selected. For instance, if you select a displayed image with the <u>mouse</u>, the Photo Factory Menu Bar will provide the tools for editing, manipulating or saving the image.

The Multimedia Store has organized Photo Factory so that you can easily navigate to different areas of the program when you need them. This Help is organized to first take you through the major features in the **Quick Start, <u>Getting Started</u>** section, and then present detail on each feature as you might use them.

Related Topics:

<u>Program Layout</u>

Program Layout

Photo Factory is designed to work with Kodak's Photo CD. When you first run Photo Factory, an empty window appears. To use Photo Factory, you must open an image or images. When you do, other windows appear within the Photo Factory window. One available window is the Contact Sheet Window.   This presents all the images on your Photo CD disk. Another,   the Slideshow Script Window,   is created when you decide to create a Slideshow from those images. *The menus and their commands will change according to which window is selected.*

The top level in Photo Factory is the Photo Factory Window. In this window you can view contact sheets, Photo CD images, other images and create Slideshows.

You can activate the image editor by selecting a particular image to work on; this action opens an Image Window within the Photo Factory Window. The menus change when you select an image for editing, and thus you enter the image editor.

You can assemble a Slideshow by simply dragging images to the Slideshow Script Window from the contact sheet. You can also edit the images first, and then assemble them into a Slideshow. Photo Factory has a powerful image editor and color correction facility for editing the images themselves. With the Slideshow editor, you can add background music, voice over, background color, text, etc., to each of the images in the Slideshow. You can also set the time duration each image appears and select how to advance to the next slide.

You can enter the Slideshow editor by double-clicking on a slide from the Slideshow Script Window. Entering the Slideshow editor produces a more dramatic transition than the image editor. And, the Slideshow editor has its own floating tool bar with <u>icon</u> tools rather than text menus.

Printing and Saving are accomplished in the usual way from the File menu, using the appropriate commands.

You can Export Slideshows from within Photo Factory or by using the stand-alone **Export** program. This includes an **Import** program allowing easy importing of the Slideshow to another computer for editing, or viewing with the **Runtime Player**.

What You Will Need

Photo Factory is designed to work with <u>Microsoft Windows</u> 3.1 or later, and a Photo CD compatible CD ROM drive.

Related Topics:

<u>Hardware Requirements</u>
<u>Software Requirements</u>

Hardware Requirements

IBM PC/AT or fully compatible 386-based computer as a minimum.

CD-ROM mode 2, Form 1 drive. MPC 1 compatible (for Photo CD compatibility).

At least 4 MB of RAM; 8 MB recommended (for High Color Display Modes, 8 MB minimum is required).

At least 2 MB of available hard-disk storage to load the Photo Factory software (4 MB recommended with Demo Files).

An 8 bit (256 color) VGA color display minimum; 24-bit (16 million color)or 16 bit (64,000 color) color display recommended, with appropriate Windows drivers.

Video Note: A 4 bit (16 color) display is supported, but is not recommended. Photo Factory will attempt to display images with this video mode.

A Windows compatible sound board that can play Wave (.wav) and MIDI (.mid) files is necessary to play sound with slides.

Memory Note: Because image files can approach 16 MB, a large amount of system memory is required to prevent excessive disk swapping with the Windows virtual memory swap file. At least 20 MB of virtual memory (system RAM plus the swap file) will be required to open large images. This requirement varies with each system, but more RAM the better.

To run a Slideshow in 24 bit at 1024 X 768 and display large images with MIDI and Wave play, a 486DX66 with 16 MB, a fast CD drive and Graphics Accelerator is required. But, a Slideshow in 24 bit at 640 X 480 will run fine on most systems.

Software Requirements

MS-DOS, version 3.3 or later; version 5.0 or later recommended.

Microsoft Windows, Version 3.1 or later.

Mode 2 capable CD-ROM Windows driver (e.g., MSCDEX).

Microsoft Windows should be configured to run in at least 256 Color mode for minimum acceptable performance.

About Help

Help shows you how to install and use Photo Factory for Windows Version 2.1, and is divided into five sections. The first two sections are for those who are in a hurry and will seek the details later. The third section provides more detail and describes each menu and command. The fourth section explains how to put a Slideshow on <u>diskette</u> for a friend or business associate. The last section contains reference material.

The first section, ***Installation (<u>Installing Photo Factory for Windows</u>)***

- Setup instructions describing how to install and setup Photo Factory for Windows.
- Gives a List of the Files which will be installed by setup.

The second section, ***Quick Start (<u>Getting Started</u>)***

- Open a Photo CD disk
- Create a Slideshow
- Run Slideshow

The third section, ***Menu Command Reference***

- Lists all Photo Factory menu commands in each window and describes how to use them.
  - *Photo Factory Window Commands*
  - *Contact Sheet Window Commands*
  - *Image Window Commands*
  - *Slideshow Script Window Commands*
  - *Slideshow Editor Window Commands*

The fourth section, ***Distributing What You've Produced***

- Compressing and saving a Slideshow to diskette
- Saving a Slideshow as a screen saver

The fifth section, ***Reference Information***

- Appendixes
- Glossary of Terms
- Index

Installing Photo Factory for Windows

Here's how to install Photo Factory for Windows:

- Run Microsoft Windows and open the Program Manager

- Insert the Photo Factory CD into the appropriate CD ROM Drive on your computer (probably the D: drive).

- From the Program Manager, select   File Menu, then Run.

- Enter the appropriate CD drive letter followed by **:\Pfactory\Setup.exe** (e.g., **d:\Pfactory\Setup.exe**).

- Select the **Set Location** button to enter the desired destination drive, along with the desired location for storing the program files (the default is **C:\PFACTORY**).

- Choose those items you wish installed from the Installation Options list:

  - Check the **Photo Factory for Windows** box to install the Photo Factory program and its main required support files. You may not install this on more than one machine at a time.

  - Check the **Runtime Player** box to install the Slideshow player. This is useful to install only the Slideshow player on another diskette or system. You may freely distribute the Runtime Player.

  - Check the **Screen Savers** box to install the capability to run a Slideshow created with Photo Factory as a Windows Screen Saver. You may freely distribute the Screen Saver file.

  - Check the **Midi Gallery** and/or demo **Slideshows** boxes to install sample Slideshows, images,

Wave and MIDI files. You may not sell these as music or clip art files, but you may otherwise freely distribute them in presentations and documents you create.

◆ Checking additional demonstration programs will also install their files with your Photo Factory programs.

The setup program will automatically sense the files installed on your system and will indicate the required space to install each selected option.

Setup installs these files:

File	Description
BWCC.dll	Dialog support functions
LEADDLL.dll	File processing support functions
PCDLIB.dll	Photo CD support functions
PFACTORY.exe	Photo Factory program
PFACTORY.hlp	Photo Factory help
PFACTORY.ini	Photo Factory defaults
PFRUN.exe	Photo Factory runtime engine
PFSCR.dll	Screen Saver support functions
PFSCRNSV.scr	Screen Saver control script (Windows)
EXPORT.exe	Slideshow Export utility
LEAD.dll	File Processing support functions
LEADDIB.drv	Device Independent Bitmap driver
IMPORT.exe	Slideshow Import utility
CONTROL.ini	Modified for Screen Saver (Windows)
PFVIC.dll	Image processing support functions

At the completion of installation, the Setup program automatically creates a Program Group in Program Manager called **Photo Factory** with an Icon for **Photo Factory for Windows** and the **Import/Export** utilities.   If you installed the **Runtime Player**, **Midi Gallery** or demonstration **Slideshows** and programs, they may also have Icons.   Clicking an icon twice starts the program.   Refer to the **README.1st** file with Notepad for any last minute instructions, documentation modifications or corrections.

Note: User's with network CD-ROM drives and multiple CD-ROM drives should refer to appendix notes for special installation instructions.

Installing Features Later

The Optional installation items of Photo Factory for Windows may be installed later if you didn't install them in the beginning. To install these items, re-run Setup as described in the initial Installation and select only the items you missed. Your installed Photo Factory files will not be affected by this second installation (Refer to Installing Photo Factory for Windows).

Introduction

This section provides a brief and basic introduction to Photo Factory for Windows. It will take you through a quick session using most of the parts of Photo Factory for Windows.

To realize the full power of Photo Factory, continue on to the following sections.

Getting Started

Load the Photo CD disk

Insert the Photo CD disk in the CD ROM drive with the KODAK Photo CD logo face up. The KODAK Photo CD logo assures you of Photo CD file compatibility.

Hint: You may also use Photo Factory to read several other image file types.

Run Photo Factory for Windows
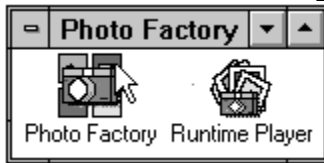
Double-click on the Photo Factory icon in the Windows Program Manager to start the program.

Open the Photo CD Contact Sheet

From the File menu in Photo Factory select Open and Photo CD Contact Sheet. Photo Factory will display a contact sheet for you containing all of the images on your Photo CD.

Open a Photo CD Image (.PCD)

Double-click on an image you like in the contact sheet. Photo Factory loads the Photo CD file and displays it in the Photo Factory window. The photo is much larger than the thumbnails in the contact sheet−detail can be seen much more easily.

Hint: An advantage in opening the image first is that you may <u>Crop</u>, <u>Zoom</u> or modify it before you include it in a Slideshow.

Crop the Photo CD Image

Notice that the Photo Factory menu bar is different.   This is the Image Editor.   Point at the top left corner of a portion of the displayed image you want to keep (you are going to draw a box with the <u>mouse</u>).   You are going to <u>Crop</u> out (throw away) the rest.   ***Hold down the left mouse button*** and drag diagonally across the image drawing a box around the portion you want.

Open the ***Image*** menu and select ***Crop***.   Photo Factory will re-access the Photo CD to retrieve that portion of the Image you selected.   This image is now ready for a Slideshow.

Open a New Slideshow

From the File menu, select New and Slideshow. Photo Factory will make a new Slideshow Script window. Since it is new, it won't have any images in it yet. Next, we'll put some there.

Assemble Slideshow Script

First, include the open photo in the Slideshow.. Shift, Click, and Drag the photo to the Slideshow Script...Your first slide is in.

Place the arrow cursor over an image on the Photo CD Contact Sheet you wish to add to the Slideshow Script. Select the image with the <u>mouse</u> (left button) so the image number is highlighted.

Hint: Multiple images may be selected by using the Shift or Ctrl key while selecting images.

Hold down the Shift key while you **click** and **hold** the image on the contact sheet. A **Hand** appears and replaces the arrow cursor as you drag. **Continue to hold** the mouse button and Shift Key.

Drag the image or images from the Photo CD Contact Sheet to the Slideshow Script window. Release the mouse button when the hand is over the Slideshow script window.

Hint: Make sure you keep the mouse button and Shift key depressed until you are ready to place the image.

Repeat this process until you have several images in the Slideshow Script window.

Related Topics:

<u>Selecting Multiple Images</u>

Selecting Multiple Images

You can also select *multiple* images from the contact sheet. If the images are contiguous, click on the first image, then hold down the shift key and click on the last image. The images you clicked on, and those in between, have been selected. If you wish to select or deselect multiple images that are not contiguous, **hold down the Ctrl key and click on the images you want**. Each will remain selected until you click without holding down the Ctrl key. Hold down the Shift key and <u>mouse</u> button as before, and drag multiple images into the Slideshow Script window.

Open the Slideshow Editor

Double-click on an image in the Slideshow Script window.   The Slideshow Editor will open with your selected image in the center of the screen and the floating tool bar to the left. Click once on the eyedropper tool and then click twice to pick up a color you like. This makes the color indicator box at the bottom right of the tool bar the color you picked up. Clicking once in the background color box (second from the top on the left, under the "A"), makes the background that color.

Press the OK button when you are done.   Photo Factory will detect that the slide has been edited and ask you to save the changes.   Say **Yes**, and the changes will be in your new Slideshow.

(You can learn about all the other interesting effects in the Slideshow Editor section.)

Run Slideshow

Drag the arrow cursor over the Slideshow Script window and click once to be sure you have the window selected.

From the File menu, select Run Slideshow (or hit the **F6** key).   Photo Factory will ask you which slides you wish to run and if you want to **Enable Debugging**.   Select the *From Slide* and *To Slide* for Photo Factory run the Slideshow you have just assembled.

The default time for each slide is 10 seconds. You can press the <u>mouse</u> button or any key to advance sooner. (If the next image is not loaded yet, the slide will not advance until the load is complete.) You can also select different slide duration times from the slide configuration window.   *Enable Debugging* will display time statistics to help you in slideshow display design....See Slideshow Script Window Commands.

Press the Esc key to stop the slideshow and return to Photo Factory.

Hint: The Esc key is almost always a default throughout Windows as the Cancel or Abort key.   Photo Factory uses the Esc key to cancel almost all operations.

Save Slideshow

When you have your Slideshow arranged the way you want it, pull down the File menu and select Save. When the Save dialog box appears, give your Slideshow a name and be sure to keep the .sld extension. Use the other functions in the dialog box to put the file in the directory you choose.

Open Slideshow

You can open the Slideshow later by pulling down the File menu to Open, and then entering the name of the Slideshow you wish to see. Once the Slideshow is open, then you can run it or edit it.

Conclusion

Congratulations! You have just created a simple Slideshow and saved it for later replay. From here you can rapidly assemble Slideshows and save them, learning new Photo Factory features as you go. For more advanced techniques, go on to the next sections where you will learn how easy it is to add text and sound, edit and color-correct images, and save Slideshows on diskettes or as a Screen Saver file.

Introduction

The commands available from the Menu Bar change when   different Photo Factory windows are selected. Explore each of the following Chapters to determine what commands are available for each. This Chapter discusses the commands and menus available on initial start-up when only the Photo Factory Window is open.

The File Menu Commands

When Photo Factory first starts, there aren't any windows open. The File Menu has only four commands available when no other windows are selected. In the **Quick Start** section you have already seen this menu change.   This section will take the menu commands in the order they appear in the menu.

Related Topics:

The New Menu
The Open Menu
Set Photo CD Defaults
Exit

The *New* Menu

This menu has three selections for creating either a new Image window or a new Slideshow window.

Related Topics:

New Image Window
New Slideshow
Import Slideshow

New Image Window

The new image window will open an empty image window for pasting image from the <u>clipboard</u>.   You are asked for the size of the <u>Dib</u> window when the selection is made.   The empty window is opened untitled and will remain this way until you save it to a file.

New Slideshow

 Select the Slideshow command when you are ready to create a Slideshow. Photo Factory opens an empty Slideshow Script window when you select this command.

When Photo Factory first displays the Slideshow Script window, it is empty. You must click and drag images to the Slideshow Script window to assemble a Slideshow.

Import Slideshow

Select the Import Slideshow command to import a slideshow which has been provided to you.   This command allows you to bring in Slideshows from any source (probably your floppy drive) that have been exported using the Export command or utility.

When a Slideshow is to be imported, use the *Script* button to brouse the available paths and Slideshow scripts (.LST files).   If the selected file is accompanied by the Runtime Player or Screen Saver, these options will be activated for selection in the Import window.   The choices you make determine the indicated Disk Space Required.   With the selections made, depress OK and choose the desired location to import your choices.

The *Open* Menu

This menu command has four selections. Point at the item you wish to open, then press and release the mouse button.

Hint: Menu items may be chosen by depressing and holding the mouse button as you drag down and across the menus. The desired choice is selected by releasing the mouse button when that choice is highlighted.

Related Topics:

Open--Photo CD Contact Sheet (Photo CD Files Only)
Open--Photo CD Image
Selecting an Image by Thumbnail
About Image File Sizes
Open--Images from File Manager
Open--Image File
To select an image

Open--Photo CD Contact Sheet (Photo CD Files Only)

This command opens the Photo CD disk as a Contact Sheet, similar to the Contact Sheet you would receive at a photographic processing lab. This Contact Sheet displays a small <u>Thumbnail</u> image of each of the images on the Photo CD disk, along with a number designator for each image. If there are many images on the disk, you may have to scroll the window to see all the images.

At the top of the Contact Sheet you will see the **Photo CD Volume** number. This is the volume ID number of that particular Photo CD. When the contact sheet is open, click on the image you wish to edit. When you do this, Photo Factory opens the Photo CD image file from the CD and displays it on the screen. The image is now ready to edit.

A Photo CD must be inserted in the CD ROM Drive before selecting Contact Sheet or Photo CD Image, or an Error message will appear.

Open--Photo CD Image

When you select the **Photo CD Image** command in the Open menu, an image selection window appears. Two different types of window are available: by Thumbnail or by **Filename**. The type of window displayed depends upon your choice selected in Set Photo CD Defaults −discussed later.

Hint: You can also open a Photo CD image by double-clicking on the image in the contact sheet; by Drag & Drop or Ctrl/Click in the Slideshow Script window.

The **By Thumbnail** selection window displays the Photo CD images Thumbnails for choice.   This window displays each of the image Thumbnails for selection in a scrolling window.   The **By Filename** selection window lets you see all of the files on the Photo CD by their file name.   A preview window is available to see the Thumbnail of the selected file.   Functionally both windows are the same.   The **By Filename** window may be a little faster in display if your computer has a slower video system.

Selecting an Image by Thumbnail

This window not only displays the contents of the Photo CD as <u>Thumbnail</u> images, it also displays the resolution, color depth, and size of the images. These parameters are set in the **File**/***Set Photo CD Defaults*** menu, discussed below.   To select an image:

- Scroll up and down with the scroll bars to browse through the images on the Photo CD disk.

- Click ***once*** on the image you are interested in to view its parameters. (A thick border appears around the Thumbnail to indicate it is selected).

- Select the desired **Size** and **Color** depth for display.   (The defaults were set by Set Defaults.)

Hint: Try using Snapshot size for quickest loading and greatest flexibility. This provides a 256 X 384 photo, which is desirable for displaying multiple photos on an 800 x 600 <u>SVGA</u> display.

- Click ***twice*** on the image you wish to load or hit the ***Enter*** key.

- Use the Escape (***Esc***) key to cancel the load.

Note: If your computer does not have sufficient memory to display the photo image at the selected resolution, an insufficient memory error message will be presented.   A lower resolution must be selected for viewing, or more memory must be added to your system.

About Image File Sizes

The Thumbnail list box provides an estimate of the memory requirements for the exact image display size selected.   This table provides a cross reference for all Photo Factory images.

Description	Photo CD Resolution	Image Size (Pixels)	24 Bit File Size (KB)	8 Bit File Size (KB)
Wallet	Base/16	192 X 128	73.7	24.6
Snapshot	Base/4	256 X 384	294.9	98.3
Standard	Base	768 X 512	1,179.7	339.2
Large	4Base	1536 X 1024	4,718.6	1,572.8
Poster	16Base	3072 X 2048`	18,874.4	6,291.5

Poster *cannot* be selected directly from the Open Image File or Select Photo list box.   A 24bit Poster image requires at least 19MB of memory. Because of Windows 3.1 memory limitations, Photo Factory does not load images larger than 16 MB. Since the Photo CD 24 bit poster image is 19 MB, it cannot be loaded full frame. You *can* load a poster image cropped to less than 85% of its original size.

Use this procedure to load Poster size:

- Open a Photo CD image at a lower Resolution.
- Crop the image to less than 85% of full size.
- From the Image menu choose Zoom with the highest available Factor.

Open--Images from File Manager

There are two ways to open image formats supported by Photo Factory from the Windows <u>File Manager</u>.

- Double-click on a file−the installation of Photo Factory <u>associates</u> supported image file extensions with Photo Factory. This will run Photo Factory (if it's not already open) and open the selected file.

- Drag the file or group of files onto the minimized Photo Factory <u>icon</u>, or into the Photo Factory window.

  One example of how to do this is to:

  - First, start Photo Factory and minimize it to an icon on the <u>desktop</u>. Then, start File Manager and position its windows so the files you want to open are visible and the Photo Factory icon is visible.

  - Next, select the file or group of files and drag them to the minimized Photo Factory icon.

  - Maximize the Photo Factory icon to see the files. If you selected more than one, they will be cascaded.

Open--Image File

Use this command to open any of the image types supported by Photo Factory, including Photo CD (.PCD) images.

Hint: Opening images by filename is faster in terms of machine performance. Opening By Thumbnail is often easier for the user.   This menu selection should not be confused with the Photo CD By Filename which is selected by Open Photo CD Image.

When you select **Open**/*Image File*, the Open Image File window appears.

Photo CD images as well as other image file formats are listed by file name in the File Name box. Any supported image file can be selected and opened in this fashion. The **List Files of Type:** box lets you select only certain file types or all file types. The Drive box lets you specify which drive to search. The Directories box shows you the path to the sub directory you presently have active. You can use this box to change the path to a different sub directory.

To select an image

- Scroll the image <u>list box</u> and highlight the desired image file name by clicking on it.

- Use the Type and Drive boxes to help find the file you want.

- Click **OK** to load the image for editing or display.

Note: It is possible to load Image Files that do not have one of the specified extensions.   Photo Factory will detect the image format when loading the file.   If you think the file may be a supported format, type the file name into the File Name: edit box to attempt the load.   If Photo Factory cannot interpret the format, it will inform you of the problem.

Set Photo CD Defaults

This command sets the default values for images you will open on a regular basis with Photo Factory.

When you select the Set Photo CD Defaults command from the File Menu, the Photo CD Defaults window appears.

When Photo Factory is installed, the installation program will determine the best default settings and store them for you.   These values will be based on the configuration of your system (video, CD ROM Drive, etc.) at the time installation is performed. You may want to check the default preferences if this is your first session with Photo Factory for Windows. You can change the Photo Factory for Windows defaults at any time.

The <u>Reset</u> button automatically sets all defaults to the values Photo Factory has determined will work best for your computer. Photo Factory will reexamine your computer when you select Reset, and enter the new defaults.

The **Defaults** are stored in a file called **PFACTORY.ini**.

- First of all, set the default resolution. Click on the <u>list box</u> so you can see the available selections, then click on the one you want.   Keep in mind the larger the image selected, the more memory the image will need.   In addition, a larger image will require a higher screen resolution to be fully displayed.   It is better to start small and use <u>Zoom</u> (discussed later) to increase the size.

Hint: Snapshot is a good place to start.

- Next, click on the Color Mode list box to view the color depth selections available. Choose the color depth you want.

  - <u>Gray Scale</u> sets Photo Factory to display an <u>8 bit</u> monochromatic (<u>gray scale</u>) tonal range. This is useful for images you wish to print on black & white printers.

  - <u>256 Color</u> sets Photo Factory to display 8 bit color images by default. 8 bit color is supported on most <u>SVGA</u> display adapters at their highest resolution.

  - <u>24 bit</u> **Color** sets Photo Factory to display images in <u>high color</u> (24 bit, <u>16 bit</u> or <u>15 bit</u>).   In full 24 bit mode (<u>True Color</u>), Photo Factory is capable of displaying over 16 million colors. Your display adapter and Windows display driver will determine your actual display mode.

- Click on either by <u>Thumbnail</u> or by Filename. This selects the type of window displayed by **Open/*Photo CD Image***.

- Select the Default CD ROM Drive letter to be used for loading Photo CD images. The default used by Photo Factory is the first CD ROM Drive found when your computer is examined. If a different drive is desired, or a drive was not detected by Photo Factory, you will need to enter the letter.

Note: If no CD ROM Drive was detected on installation of Photo Factory, you were asked to supply one. To use a different drive, enter the letter here. If the drive is a Network Drive, you must provide the letter in setup or here. In all cases, the CD ROM Drive   entered must be Photo CD Compatible.

- Select disable sound by clearing the *Enable Sound* check box if your system is not equipped with a Sound board.   This will prevent getting error messages when you play Slideshows that include sound.   You may also use this selection to turn sound off when playing Slideshows.

When you have selected your default parameters, click on the OK button.
Note: If your computer is capable of displaying high color or True Color images, you must select an appropriate display driver with the Windows Setup utility before you can satisfactorily display 24 bit images. Some Windows display drivers have 15 or 16 bit settings (32 or 64 thousand colors). These will work equally as well as the full 24 bit color settings.

Exit

The **File/*Exit*** command closes Photo Factory. If you have performed editing tasks or made other file changes, Photo Factory will prompt you to save the changes before it quits.

Edit/Window Menu Commands

If there are no windows open within Photo Factory, these menus will have no functional selections. The only edit selection possible at this level is **Paste New** images from the Windows <u>Clipboard</u>.   This option will be active if the Clipboard contains an image in <u>DIB</u> format. This is the only format which Photo Factory will import from the Clipboard. (See the **Edit** menu description in the   section.)

Note: The Paste New   option will be dimmed-out (grayed) if you have no DIB images in the clipboard.

Photo Factory Key Strokes

Photo Factory provides special keys and key combinations to aid you in working more effeciently. Some of these are dedicated to the type of window you have selected. All except Key/<u>Mouse</u> Button combinations are presented in the Menus with their appropriate function.   Below is a table of the combinations:

Keys	Active Window	Function
Shift+Del or **Ctrl+X**	Slideshow Only	Cut to <u>Clipboard</u> - Deletes a slide **and** copies it to the Clipboard
Ctrl+Ins or **Ctrl+C**	Image or Slideshow	Copy to Clipboard - Copies a slide or selected image
Shift+Ins or **Ctrl+V**	Image or Slideshow	Paste New - Adds a new image to a Slideshow or Image Window
Ins	Image Only	Transparent Paste or Paste into
Del	Slideshow Only	Delete - Removes a slide **without** copying it to the Clipboard
F2	Any	Select an Image File to load into a New Image Window
F4	Image Only	View the selected Image Full Screen
F5	Slideshow Only	Configure Slide
F6	Slideshow Only	Run Slideshow (Last Slideshow selected)
Ctrl+Left Mouse	Contact Sheet	Randomly adds image selections (For multiple slide selections)
Ctrl+Left Mouse	Slideshow	Opens an Image Window for a selected slide in a Slideshow
Ctrl+Left Mouse	Image	Drag and Drop an image to replace an existing slide in a Slideshow
Shift+Left Mouse	Image or Contact Sheet	Drag and Drop a new image or images into a Slideshow. Allows range selection of images in a Contact Sheet (See Contact Sheet).
Mouse Double-Click	Contact Sheet	Loads the selected image into a new Image Window
Mouse Double-Click	Slideshow	Loads the selected slide into the Slideshow Editor

File Menu

When a **Contact Sheet** window is selected, nine commands are available under the File Menu.

Of these commands, four will perform the same tasks as described in the **Photo Factory Window Commands** section.   Refer to the table below for the reference section containing detail on these menu items (see the Index).

Command	Section Name	Heading	Sub-Heading
New	Photo Factory Window Commands	File Menu Commands	New Menu
Open	Photo Factory Window Commands	File Menu Commands	Open Menu

Set Photo CD Defaults	Photo Factory Window Commands	File Menu Commands	Set Photo CD Defaults
Exit	Photo Factory Window Commands	File Menu Commands	Exit

Related Topics:

Preview Images
Convert Images
Print
Select Printer
Photo CD Volume Information

Preview Images

The Preview Images command provides a full screen display of each image on the Photo CD for the Contact Sheet selected. This is a "quick view" Slideshow of all images on the Photo CD. The images will display at the size defined by Set Photo CD Defaults, with a ten second delay between images. The Photo CD Image file name appears in the upper, left-hand corner of the screen.

Hint: The Color Mode and Resolution (size) are as selected in Set Photo CD Defaults. The image display rate will vary with photo load time (color, disk and computer).

Press the **Space Bar** to pause an image display, and the Space Bar again to continue with the preview.

Press the **Esc** key to interrupt preview and return to Photo Factory.

Note: If the Space Bar has been used to pause the display, you must press the Space Bar a second time to end the pause before the Esc key will interrupt the preview.

Convert Images

The Convert Images command lets you block convert one or more images you have selected on the Contact Sheet. You can convert the Photo CD images to any of the other supported file formats. This command is very handy for quickly getting your Photo CD Images into a file format on your Hard Drive.

Hint: This feature is useful for transferring your Photo CD Images to another computer or for use in a distributed Slideshow. You may also use this to save images which your computer cannot display.

You may store images in sizes from **Wallet** to **Large** with a color depth from **256 colors** (8 bit) to **16 million colors** (24 bit) per pixel.   You may also convert them to a Gray Scale color format.

- Select the images on the contact sheet you want to convert.

Hint: Use the Shift and Ctrl keys for multiple image selections.   Select the first image in a contiguous group,   hold down the Shift key and select the last image.   Randomly select Images with the Ctrl key depressed.

- Select **Convert Images** from the **File** menu.

- Select the drive you want your files stored on in the Drives list box.

- Select the PCD Resolution you want your image files converted **from** in the **PCD Resolution** list box.

- Select your desired Color Depth in the **Bits Per Pixel** list box.

- Select the file format you want your Photo CD files converted *to* in the **Output Format** list box.

- Select if you want your files stored in Color or Gray Scale with the select buttons at the bottom of the window.

- Click OK when you are ready to convert your image files.

After you click OK, Photo Factory displays a progress bar to let you know the conversion's progress.

Related Topics:

About JPEG Compression

About JPEG Compression

If you selected JPEG compression, Photo Factory asks you to decide how much compression versus how much quality you require. That is, the better the quality, the less the file compression factor. Since the JPEG compression standard does have some image losses, maximum file compression will yield patchy looking images.   But, you can achieve as much as a 100:1 file compression ratio.

As compression ratios go down, subjective image quality improves significantly.

Hint: Enter relative compression value (1-254) or adjust the compression /quality to give the image display quality you require.   You may use Photo Factory to display different compressions of the same image to decide which is best. The affect will vary between images.

Print

The ***Print*** command prints the entire Contact Sheet with each image approximately the size of an original 35mm film frame. The Photo CD volume number is printed at the top of the page and the image number is printed next to the lower, left hand corner of each image. Images are printed at the maximum density possible, depending on your printer and the paper size loaded in it. For example, on an HP Deskjet 500 with letter paper, the images are printed four up; that is, four to a row, eight rows to a page. Portrait images are automatically rotated 90 degrees so that all the images will have the same orientation.

The Print Contact Sheet command is extremely useful for producing a compact hard copy of all the images on your Photo CD. The contact sheet quality is particularly good when output on color dye sublimation printers, rivaling that of actual photographic contact sheets. Gray Scale quality is also quite acceptable, even on an inexpensive ink jet printer.

Here's how to do it:

- Select the desired printer from the **File/*Select Printer*** dialog box.

- Select **File/*Print*** with the desired Contact Sheet active.

- Select your resolution between 128 dpi (Dots per Inch) and 256 dpi.

Hint: The 128 dpi resolution provides good quality. The 256 dpi resolution provides better quality, but takes up to five times longer to print. The print time depends on the computer, printer and the amount of work to be done.

- Select between Color or Gray Scale.

- Select if you want your images printed Portrait or Landscape.

- Select OK.

After you select OK, print processing begins and you will see the familiar Windows progress bar, letting you know the status of your print job.

Select Printer

The ***Select Printer*** command brings up the familiar Windows printer selection window. Click on the Windows printer you wish to direct your output to and press OK. You can also select the Setup button in this window to configure your printer.

Photo CD Volume Information

When you select this command from the File menu, Photo Factory displays information about your Photo CD disk.

This information applies to the disk for the Contact Sheet that is active. Because Photo Factory may have contact sheets open for more than one Photo CD at a time, make sure you have the right one active before you select this command.   The Serial Number for a Photo CD is etched on the inner clear ring of the CD. All images used in a Slideshow are tagged to this Serial Number.

Edit Menu

Two commands are available under the Edit Menu when a Contact Sheet is selected as the active window.   These two commands augment the selection capability of Photo CD images from the Contact Sheet for making Slideshows or   Converting image files.

Related Topics:

Select/Deselect All
Random Selection--Ctrl + Click
Range Selection--Shift + Click

Select/Deselect All

Use these commands when you wish to use all the contact sheet images, or wish to de-select a group of images you have already used. Photo Factory highlights an image's number designator when it is selected.   In addition to Select All and   the individual Image selection, there are two other selection capabilities.

Random Selection--Ctrl + Click

You can select random images on the contact sheet by holding down the Ctrl key and clicking on the image you want. The Ctrl key acts as a toggle, so you can randomly de-select an image by clicking on it again while holding down the Ctrl key.

Range Selection--Shift + Click

You can select a range of images on the contact sheet by clicking on the first in a range and then, while holding down the Shift key, click on the last image in the range. For example, click on image 2, hold down the Shift key and click on image 11. Images 2 through 11 are selected and highlighted.

Window Menu

The Window menu will remain the same for all Photo Factory window types selected.   Because most of the function of this menu is used when multiple Image Windows are open, complete descriptions of its Commands are covered in the <u>The Window Menu</u> section.   However, if you open a Photo CD Contact sheet and select the Window Menu, you will see that a number beside Contact Sheet for the **Photo CD Volume:** The (√ **)** beside the window indicates it is active.   All windows open will be listed here.

Introduction

This section takes you through each of the *Image Editor* menus, as they occur. You have started the Image Editor when you open an Image File Window. Notice that many, but not all, of the menu commands have changed in the Image Editor. However, most of those that have not changed will have new selections.

File Menu

The File Menu is only slightly different when the Image Window is active. The functions of the **New**, **Open**, **Select Printer**, **Set Photo CD Defaults**, and **Exit** will be the same as described in the previous sections.   The **Print** selection has the same name, but will perform different from the description in the **Contact Sheet Window Commands**.   The new item in this menu is **Save View**.

Related Topics:

Save View
Print

Save View

The *Save View* selection from the File Menu saves the currently active image in various file formats. You will get a different dialog box dependent upon what type of image you have selected.   If the image is an original Photo CD image, you will get the Save Bitmap File window.

Related Topics:

       Photo CD images
       Non-Photo CD images
       File Formats

Photo CD images

From this window you may select the *File Name*, location (*Directory* and *Drive*) to be saved, File Format (*File Type*) to save the file as, Resolution (*Image Size*) and Color Depth (*Image Format*) to be used. A unique advantage of this file save capability is that you may choose a different Resolution and Color Depth from that of the displayed image. Photo Factory will load the new information directly from the Photo CD in performing the Save. This is the same process used when you chose *Convert Images* for a **Contact Sheet**.

Hint: If the Image selected for Save View was Cropped, Rotated, Mirrored, Flipped or Zoomed, the image is saved directly from the Photo CD. It is saved at the Resolution and Color Depth selected, with instructions for the edits performed. An image loses its Photo CD attachment only if you alter its color, apply filters or use resize.

The **Image Formats** define the color depth of the image to be loaded by Photo Factory for saving.

The available formats are:

<u>24 Bit</u>   <u>True Color</u>

<u>256 Color</u>   <u>8 Bit</u> w/ <u>palette</u>

<u>Gray Scale</u> 8 Bit   w/ palette.

Note: <u>JPEG</u> is always in 24 Bit.

The available **Image Sizes** are:

Wallet (192x128)

Snapshot (384x256)

Standard (768x512)

Large (1536x1024)

Non-Photo CD images

If the image you select is non-PCD (Open Image File), or was altered by applying Filters, Color Corrections (except Color Depth), or Resize it will no longer save from the original Photo CD image. The image will now save in the Color Depth and Resolution displayed. Because you may no longer select these items, the **Save Bitmap File** window is different.

You no longer have selections for Resolution (**Image Size**) and Color Depth (**Image Format**).

File Formats

Photo Factory features the ability to open image files in eight different formats and save image files in seven different formats. (You cannot save a file in Photo CD format.)

Here are the available formats:

File Extension	Colors Supported				Format Description
	24 bit	8 bit	4 bit	1 bit	
BMP	√	√	√	√	Windows Bitmap Format
DIB	√	√	√	√	Device Independent Bitmap
TIF	√	√	**X**	√	Tag Image File Format
TGA	√	√	**X**	√	Targa
JPG	√	√	**X**	**X**	Joint Photographic File Interchange Format
GIF	√	√	**X**	**X**	Bulletin Board Systems (256 color)
PCX	√	√	√	√	Paintbrush

The (√) indicates supported Color mode.

Print

You can use ***Print*** to give you a Full page image print while maintaining the aspect ratio of the selected image.   For a high quality print, use the larger image sizes in your display.   The larger the displayed image size, the more information is available to the printer.   A side effect of this technique is that the print process will take longer.   You will need to experiment with your printer to find the optimum trade off.

Hint: Only the best (400 dpi) Dye Sublimation color printers will benefit from the largest image format. (The maximum image size supported by Photo Factory is 16 MB).

The Edit Menu

There are seven commands available in the Edit Menu when there is an Image File open for editing. Each of the commands in the Edit Menu relate to selecting or moving portions of the image. The portion may also be *All*.

Hint: The items in this menu which require a selection to function are dimmed-out until a portion of the image is selected.

Related Topics:

Select All
Clear Selection
Copy to Clipboard
Paste Into
Paste to New
Rectangular Select
Irregular Select

Select All

Choosing this command selects the *entire* image for copying, pasting into, etc.   A box is drawn around the entire image when you have selected all of the image.

Clear Selection

Select this command to *undo* or *de-select* the selection you have made.

Hint: You can click the right <u>mouse</u> button to de-select, too.

Copy to Clipboard

This command copies the selected area to the Windows clipboard. Only one thing at a time can reside on the clipboard, and the information on the clipboard is temporary. It is used as a transfer media between Windows programs. Review your Windows documentation for more information about using the clipboard.

Photo Factory copies DIB and BMP formats to the clipboard.

Paste Into

This command puts the image on the clipboard into the image window you have open and selected. After performing the *Paste*, the cursor turns into a four-way cursor when you are over the pasted image.   Click and drag the image you have just pasted   where you want. Double-click or hit the ***Insert*** key when you are satisfied with the location of the pasted image.

 If you decide to not insret the image, you may abort the operation with the **Delete** or **Esc** keys. Once the **Paste Into** operation is complete (i.e., you have double-clicked or inserted), there is **no Undo**.   However, the image is still in the Clipboard, so you can attempt the **Paste Into** again on another image window. This is a good place to use Clone for the image to receive the paste.

When using the Paste Into or Paste New commands, only DIB format is supported. Ensure that the program used to copy the original to the clipboard supports DIB format.

Hint: You can check the image content and file type in   the View menu of the Clipboard Viewer utility, after the object is copied.

Related Topics:

Transparent Background (24 bit only)

Transparent Background (24 bit only)

If the image you are pasting is on a **white** background (source image), the white background becomes transparent on the target image, seeming to disappear. This is very useful for seamless pasting of images onto other images.

Some <u>16 bit</u> display modes will not support transparent paste.   It has to do with the drivers definition of **White***. Most <u>24 Bit</u> display modes work OK.*

Paste to New

This command pastes the contents of the <u>clipboard</u> into a new image window.   This window will have the name ***Clipboard*** until the image is saved.

Hint: An asterisk (*) before the name in the window title denotes a non- Photo CD image format that is not yet saved.

Rectangular Select

This command lets you click and drag the <u>mouse</u> to define a box from corner to corner. You can adjust the size of the box after you have defined it by grabbing one of the handles on the box with the cursor and dragging it where you want.   When the selection box has been defined, you can move it around the image window by clicking the mouse and dragging the box.   A Hand will appear in the box.

Clicking the right mouse button de-selects whatever you have selected.

Hint: *When drawing a selection box in a large image (larger than the image window), the image will auto scroll to allow selection of an area larger than the Image Window.   This is handy for capturing a large portion of an image at the highest   resolution.*

Irregular Select

This lets you use the <u>mouse</u> as a free-form selection tool. The selected area is copied to the <u>Clipboard</u> in both BMP and <u>DIB</u> formats. The color depth copied is as set for the selected image.

- Click and hold the mouse button down and drag the cursor around the area on the image you wish to select.

<div align="center">or</div>

- Click from point-to-point around the object you wish to select.
- Click twice to release the cursor.
- Copy the item to the clipboard.

This is an ideal place for you to use the transparent background described earlier.

Note: Be sure to turn Irregular Select off when you are through using it (i.e., click on Rectangular Select). Some other commands won't work while Irregular Select is on.

The Image Menu

The Image Menu lets you manipulate the image itself by cropping, zooming, mirroring, rotating, resizing, etc. There are ten available commands under the Image Menu and numerous pop-up menus associated with them.

Note: Certain commands and filters are unavailable unless you are working on a 24 bit image. Unavailable commands are dimmed-out.

Related Topics:

Crop
Zoom (Photo CD Images only)
Mirror
Flip
Rotate
Resize
Filter (24bit display only)
Clone Picture
View Full Screen (F4)
Image Info...

Crop

This works just like traditional photo cropping. The Crop tool allows a portion of a photo to become the new image.

Note: For the Crop tool to be available, a Rectangular image area must be defined for the selected window. An Irregular area may not be cropped.

Here's how to crop an image with Photo Factory:

- Move the mouse pointer to a corner of the cropping area.

- Hold down the left mouse button and move the pointer to the diagonal corner of the cropping area. Photo Factory "auto-scrolls" the image, if necessary.

- When the mouse button is released, the image inside the rectangle is the part to be kept. (The image outside is "cropped out.")

- The area selected may be altered by grabbing one of the box "handles" with the left mouse button and dragging the handle.   The area may be moved by grabbing inside the area and moving the area.   The cursor changes to a hand.

- After the area has been selected, choose ***CROP*** from the **Image** Menu.

Hint: A cropped Photo CD image is still treated as an original Photo CD image by Photo Factory.   A copied or saved image that is cropped, is as good as the original.

Zoom (Photo CD Images only)

Zoom is a handy way to work with Photo CD images. You can start with a Snapshot or Standard. Then, crop it to the image area you wish, and finally zoom to the required finished size.

The Zoom tool makes a portion or all of the image into a new image at lower or higher resolution. The tool automatically accesses the Photo CD disk to the selected resolution, and displays the portion of the image that you marked. Each time you use the Zoom tool, a new Photo CD resolution is loaded from your Photo CD disk.   The current color depth may allow only certain Zoom Factors to be available.

Select the area to be zoomed as described in Cropping, above.

Then, select Zoom from the Image Menu; a second menu allows   you to choose either Zoom **In** or **Out**. A third menu allows you to choose the zoom factor. From here the full five resolution capacity of the Photo CD format is available.

Caution: When Zooming to a higher resolution, it is possible to describe an area which will require more memory than is available. If this should occur, an Insufficient Memory Error will be presented. Selecting OK from the message box should return to the currently selected view. Then, select a smaller area to be Zoomed.

Mirror

This tool lets you produce a reverse or "mirror" image of the selected Photo. Selecting Mirror a second time displays the original image.

Flip

Flip moves the image 180 degrees around the horizontal axis. This is the equivalent of a mirrored image rotated 180 degrees.

Rotate

The Rotate option lets you turn the image around the center axis in either direction in 90 degree increments.

Note: As with a cropped image, a mirrored, flipped or rotated Photo CD image is still treated as an original Photo CD image by Photo Factory.

Resize

The Resize tool lets you change an image's size.   It is mainly used for resizing images that are no longer in Photo CD file format (images that have been edited, imported, etc.)or to *off- size* Photo CD images. Enter new width or height values to resize the image. Select Maintain Aspect Ratio and only enter one value, Photo Factory will calculate the other.

*Note: If an image is made larger with this function, apparent detail is lost. An original Photo CD format image that is resized is NO LONGER a PCD image. An * appears in the title bar until the New image is saved.*

Filter (24bit display only)

Filters let you add sophisticated special effects to your images quickly and easily. Photo Factory provides four ready to use filters and a user-definable custom filter. The standard filters are **Enhance Detail**, **Soften**, **Edge Detect** and **Emboss**.

Hint: Try using the Negate Image command in combination with the Edge Detect and Emboss filters

Each of these is useful for different effects. The Enhance and Soften filters allow you to alter the sharpness of the image's appearance. Embossing is a visual special effect used by more sophisticated presenters, including the broadcast television networks, on posters, etc. A discussion of the user-definable filter feature is located in Appendix A.

Filters only work on 24 bit color images. Furthermore, once a filter is applied to an image loaded from a Photo CD, the image is no longer in the Photo CD file format.   This is a perfect application for Clone. (Of course, your original Photo CD image is still preserved on your Photo CD disk.)

Related Topics:

      Enhance Detail Filter
      Soften Filter
      Edge Detect Filter
      Emboss Filter
      User Defined Filters

Enhance Detail Filter

This filter affects the contrast between the pixels. It will sharpen the image in five steps from Sharpen (min) to Heavy.

Soften Filter

This filter will reduce the contrast between pixels in the image.   The image detail is reduced in three steps, Averaging through Blur. Use it to calm heavy areas in an image.

Edge Detect Filter

This produces several types of solarized or line drawing effects.   Of the first three filters, the first one produces the greatest affect.   It finds edges, either sharp or subtle, and enhances them.   There are three general edge detect levels, LaPlace 1 through LaPlace 3.   The Gradient, Horizontal Edges and Vertical Edges filters will only affect specific types of edges.

Emboss Filter

This filter is ideal if you want to make posters.   It produces a raised 3D embossed effect by making shadows at image edges.   This filter works best on high contrast images.

User Defined Filters

This Photo Factory feature allows you to define your own custom filters.   You may use this capability to **Load** an existing filter into the Filter Matrix, modify the filter and **Save** it as your own custom filter.   All pre-defined filters are available in the filters to load <u>list box</u>.   This allows you even to create special effects filters for very specific jobs or images.

Although the concept of making filters may be a little difficult to grasp,   you might enjoy the effects they have.   For a detailed explanation on defining a Filter Matrix, refer to <u>User Filters</u> in Appendix A.

Clone Picture

The Clone tool lets you duplicate the selected photo quickly and easily. It will open a new Image Window with the duplicate image.

Hint: *Clone the photo first!* Try different filters and tools on a ***clone*** of the original photo to see if you like the result. Then, save the cloned image. It's faster and easier.

Note: Your Photo CD image is always safely archived on your Photo CD disk−it cannot be altered or damaged by Photo Factory for Windows.

View Full Screen (F4)

This command displays the currently selected image window as large as possible on your screen. Select this command from the Image Menu or press function key F4. Press the Esc key to return to Photo Factory.

Hint: If the Image is too large to be displayed on the screen, it is automatically reduced. However, smaller images are not resized.

Image Info...

Selecting the Image Info... command from the Image Menu causes Photo Factory to display a window with the current image's specifications.   Selecting the Photo CD Information button within this window provides complete specifications on the CD containing the image.

The Color Control Menu

About Color

Now, a few words about color. Every human sees color a little differently. And, every monitor's phosphors and electron guns are a little different. Add to this complexity the color variations with ambient room light, background, etc., and you can see that color is a relative thing. Therefore, it is nearly impossible to duplicate color exactly. However, with a computer and Photo Factory we can get much closer than was previously possible.

Color Control

The Color Control Menu is only available when an image window is open. You must open an Image File for Photo Factory to make the Color Control menu available on the tool bar.

Seven commands or sub-menus comprise the Color Control Menu. The ***Increase Contrast***, ***Brighten Shadows***, and ***Brighten Midranges*** commands are ***not*** available unless you have loaded a <u>24 bit</u> color depth image file.

Hint:

- Run Windows in 24 bit, <u>16 bit</u> or <u>15 bit</u> color mode whenever possible.

- Use 24 bit color when you want your images to look most life-like.

- Use <u>8 bit</u> color when you want to conserve image memory.

- Use <u>gray scale</u> when you want to print black and white originals to make photo copies from.

Gamma Correct

The Gamma Correct command from the Color Menu boosts or reduces the gamma (brightness/contrast) of your image. A gamma value of less than one makes the image darker; a value greater than one makes it brighter.

Hint: A very small amount of gamma correction has a dramatic effect. Try reducing in the range of 0.8 to 0.9 and increasing in the range of 1.1 to 1.3.

Use the Gamma Correct tool to brighten apparently dark images or darken images that are apparently too light. Gamma changes the apparent "brightness" of an image without affecting very dark or light areas of an image. This makes for a pleasing "brightness" adjustment.

Note: When you apply any of the Color Control commands, the displayed image is altered, and is no longer in Photo CD format. The original Photo CD image on the disk remains unaltered.

Negate Image

The Negate Image command from the Color Control Menu lets you create a photographic negative effect on the image. Light, dark, and color values are reversed.

Color Balance

The Color Balance command provides three sliding controls.

These controls vary the amount of primary color in the image: red, green, blue.

Photo Factory generates color on your computer screen by combining the primary colors red, green, and blue, in different percentages. Here are some suggestions for color adjustments.

Image...	...Change	...Or Change
too Red	decrease Red	increase Blue and Green
too Green	decrease Green	increase Red and Blue
too Blue	decrease Blue	increase Red and Green
too Cyan	increase Red	decrease Green and Blue
too Magenta	increase Green	decrease Red and Blue
too Yellow	increase Blue	decrease Red and Green
too Dark	increase Gamma	increase RGB
too Light	decrease Gamma	decrease RGB

Increase Contrast (24bit)

The Increase Contrast command on the Color Control Menu lets you increase image contrast without varying brightness.

Brighten Shadows (24bit)

The Brighten Shadows command on the Color Control Menu is very useful for "bringing up" the image in shadows, without boosting the overall brightness of the image.   A side affect of brightening shadows is to decrease image contrast.

Brighten Midranges (24bit)

The Brighten Midranges command on the Color Control Menu is like Brighten Shadows, but with Midrange values like faces.

Color Depth

The Color Depth selection on the Color Control Menu provides tools to make specific color depth changes.

- The Gray Scale tool converts the colors in your image to monochromatic tonal values (different shades of black and white; i.e., gray). It results in a 256 color gray scale image.

- Halftone **Methods** tools provide you with Error Diffusion, Oderded Dither and Threshold selections for black and white conversions (1 bit or 2 color). These choices allow you to select how the halftones in your black and white image will be dithered.

- **RGB to** 8 Bit converts a 24 bit RGB image to an 8 bit image. You may select either **Optimum Palette**, which uses what Photo Factory computes as the best color substitutions in the color palette (256 color) with the dithering method selected, or **Fixed Palette**, which uses the standard Photo Factory palette. This conversion is accomplished by dithering the 24 bit image down to an 8 bit image using the Floyd Steinberg algorithm.

- **RGB to** 4 Bit converts a 24 bit RGB image to a 4 bit image (16 color), with the same choices as **RGB to 8 Bit**.

- **<N> Bit to RGB** converts an 8 bit or 4 bit image to a 24 bit image. This conversion will set the image colors based on palette colors and eliminate the palette. The 1 bit image created in the Halftone conversion may be converted back to an 8 bit image. From this point it may be converted to a non-palette image.

- **Dithering Methods** presents the user with 6 Dithering methods which can be used when reducing an image's color depth (i.e., **24 Bit** to **8/4 Bit**).The **No Dither** method is only available when using the **Optimized Palette** options. When selected, the image will be reduced to the nearest set of **x** colors, and all pixels will be mapped to the nearest color. Any of the other methods will apply a dithering method to the color matching step. This dithering tends to smooth the transitional boundary between adjacent colors and is applied best to an image containing large areas of continuos tones (e.g., skin or sky). Each method will produce a slightly different appearance.

Hint: Use 8 Bit to RGB to convert a 256 color image for filtering, even though the results won't be as good as starting with a 24 bit image. Remember, filters may only be used on 24 bit images.

Photo Factory displays the image, according to the default settings set in the File Menu. If not altered at installation, this will be based on the color mode of your display. You can change the default color values at any time by selecting one of the available Color Depth options with the File/Set Photo CD Defaults command discussed previously.

Note: If the display mode is set to 256 Color or Gray Scale then Windows color palette images should not be displayed at the same time. This causes the Windows palette selection to be altered, which will distort the images. If you are working in 24 bit color, then displaying both color and gray images is OK.

To allow gray scale and color display at the same time, the Windows display mode must be set to either 24 bit or 16 bit. This provides adequate color choices for all display modes to coexist within Windows.

Hint: Attempting to view a photo in 24 bit resolution on a 256 color system will not produce satisfactory results.

The Window Menu

Introduction

The Window Menu is designed to help you arrange multiple windows easily. It will also help you arrange icons of windows that have been minimized.

Tile

When you select the Tile command from the Window menu, Photo Factory arranges all of the open windows in a square tile pattern. Each window is given an equal size.

Cascade

With Cascade, Photo Factory arranges all displayed photo windows in an overlapping format. This selection makes all photo titles visible.   To bring a photo to the foreground, click the left <u>mouse</u> button while pointing at the desired window title.

Arrange Icons

When you select the Arrange Icons command from the Window menu, any minimized icons in the Photo Factory window move to the lower, left-hand corner of the window.

Open Windows

Multiple windows can be open at the same time. You can select and bring to the front a window on the <u>desktop</u> by clicking on its name in the Open Windows list.

Introduction

This Chapter deals with assembling a Slideshow, including images, sounds, background color, timing, etc. The Slideshow Script Window is the place where you assemble images into Slideshows by dragging and dropping images in the order you wish them to appear. These images may be any of eight possible image file types, an image you have edited from a Photo CD, or an image directly from your Photo CD disk.

File Menu

When the Slideshow Script Window is selected, ten commands are available under the File Menu. Of these commands, ***New***, ***Open***, ***Select Printer***, ***Set Photo CD Defaults***, and ***Exit*** are the same as described in the previous sections. This section will focus on the remaining selections.

Related Topics:

Run Slideshow

- Select **File**/**Run Slideshow** to display each slide in the Slideshow Script Window. When you select Run Slideshow, a window will appear requesting the beginning and ending slide number.

- Enter the starting and ending slide you want to see in the Slideshow.

- Select the Enable Debugging check box to enable the debugging display.

- Select the OK button.

- The Slideshow will run until it has completed displaying all the slides in the Slideshow Script and returns to Photo Factory.

- Press the **Esc** key to stop the Slideshow and return to Photo Factory.

Background color, each slide's duration, background music, and voice-over for each slide can be selected with the Slideshow editor, Configure Slideshow, and Configure Slide commands (explained later).

If **Enable Debugging** was selected the upper left corner of the display contains slide timing information. This information is:

Slide: #   Cue: <*t*> msec   Compose: <*t*> msec   Cycle: <*t*> msec

...where **t** is *time* in milliseconds.

Heading	Description
Slide: #	Slideshow Slide Number
Cue: <t> mSec	Time required to load all of the resources for the slide
Compose: <t> mSec	Time required to build the slide bitmap
Cycle: <t> mSec	Time required to change slides from the previous slide.

The Cycle time is the greater of either the slide time entered in the script, or the total of Cycle, Display and other overheads.   Other overheads can include Wave play and system processing.

Hint: When working with compressed images such as .Jpg or .Pcd it is useful to know these times for setting up your slideshow.

Save Slideshow

When you have the images you want in your Slideshow assembled in the proper order in the Slideshow Script window, you can save that particular Slideshow to disk. If this is the first time the Slideshow has been saved the Save Slideshow As window will appear.

Save Slideshow As

This command lets you save a Slideshow Script which you have modified as another Slideshow Script with a different file name. The Save As window lets you choose file name, path, disk drive, and if you want the Slideshow saved with or without Thumbnails.

Hint: Remove the Save Thumbnails √ to reduce the size of your Slideshow file.   This is good for making distribution diskettes for viewing only.

Consolidate Script

The Consolidate Script command lets you convert all the different file types in your Slideshow Script into the same file type. All the MIDI and Wave files used in the Slideshow are copied to the specified consolidation directory. It also modifies the script to point to the new files in that specified directory.

Photo CD images will be converted directly from the Photo CD based on the **PCD load Option** selected. Other bitmap images will be converted based on their native color depth and/or palette.

Consolidate Script is a handy way to prepare your Slideshow for export to another computer.   You can consolidate your Slideshow Script images into any of the supported image file types.   If you select JPEG for the file format, when you press **OK**, the JPEG Compression/Quality window appears. Otherwise, Photo Factory displays a progress bar until the file consolidation is complete.

Hint: You can use Consolidate to "batch convert" the Photo CD images which you cropped, rotated and zoomed before they were put into the Slideshow.   The Slideshow in this example will run without the photo CD now.

Be sure that the Convert Image box is checked if you want to change image formats. Also make sure there is adequate space available on the destination disk to hold the consolidation with images, sound and script files.

Export Script

The Export utility compiles all of the files necessary to support a Slideshow and writes them to the specified drive.   This selection provides a window to assist in compiling the export.   The window displays size statistics on the Slideshow including the quantity and space requirements in Image files, MIDI files and Wave files.   Because Photo CD Images are displayed directly from the Photo CD, they will not be included in the Image file space requirement.   To Export a Slideshow:

- Enter the Slideshow file name in the Script edit box.   Use the Script button to browse for the name and path for the desired Slideshow.

- Select the Strip CD Volume Info check box if the Slideshow contains Photo CD Images (this option is not dimmed), and you do not wish the Photo CD Volume ID to be include with the slide requirement.

Note: If this choice is selected, remember that any Photo CD which contains that Image File Number may be used for the slide load.   This may not be the actual slide you desired.   This option is most useful when duplicate Photo CDs are to be used.   These CDs will not have the same ID.

- Select **Export Runtime Player** or **Screen Saver** if the Slideshow is only to be run on the importing computer.   This will export all necessary files to allow the Slideshow to be run without Photo Factory.

- Select the Export button.   (Note that the total amount of required disk space is dynamically updated as you choose the desired options.)

- An additional window will appear for you to choose the destination of the Slideshow.   Use the Browse button or enter the path desired.

- Press the OK button and the Export will begin.   The Export button is replaced with an Abort button and a progress line will appear.

If multiple diskettes are required, the Export utility prompts you for additional diskettes.   At completion, press the Exit button to return to Photo Factory.   All of your choices are now stored on the selected disks.

Print Script

The **File**/*Print Script* command prints out the Slideshow script, with <u>Thumbnail</u> images and configuration data for each slide in the Slideshow.

The choices of Thumbnail and Embedded text allow you to reduce the size of the printout by not including the Thumbnail Image and any text added to each Slide.

The printout also includes:

- Slide title
- Slide number
- <u>Zoom</u> status
- Frame duration in seconds
- Continuation cue
- CD ROM drive where the slide resides
- Photo CD Volume ID
- The image number on the Photo CD disk
- Slide resolution
- Text in slide
- The DOS path to the slide's image
- The DOS path to the slide's Wave file
- The DOS path to the slide's MIDI file

This information is printed for each slide in the Slideshow. Most of this information you provided when you configured your slides and Slideshow.   These are covered later in this section under the Edit Menu.

Edit Menu

Introduction

This menu provides options for manipulating the slide configurations in your Slideshow.   The first group of commands allows you to alter the order of the slides in the Slideshow, while the second configures the slides and Slideshow themselves.

Cut

Cut allows you to delete a slide from an existing location and place the slide into the <u>Clipboard</u>.   The slide is preserved in the Clipboard with all of its configuration data including any Voice and MIDI files configured.

Hint: You can use Cut, Copy, and Paste to move slides within a Slideshow or from one Slideshow to another.

Copy

Copy will perform the same task as **_Cut_** except the slide is not removed from the Slideshow.

Paste

Paste will insert a slide stored in the <u>Clipboard</u> in front of the selected slide in a Slideshow.

Delete

Delete may be used to permanently delete a slide from a Slideshow.   The slide is not copied to the Clipboard, so a Delete operation is permanent (There is no Undo).

Configure Slideshow

When you select the Configure Slideshow command, a window appears to allow you to:

- Give your Slideshow a title.
- *Loop the Slideshow* - Make the Slideshow play endlessly until the *Esc* key is pressed.
- *Hide* <u>Mouse</u> *during Play* - Hide the cursor while the Slideshow is running.
- *Scale Objects to Fit Screen* - Scale slides to fit the running computers screen resolution.
- Select the options you wish.
- Click OK

Example: If the **Scale Objects to Fit Screen** option is selected with a Slideshow created on a 640x480 machine, and displayed on an 800x600 machine, it will appear the same size. However, this   resizing takes some additional time. It's best to try to run the Slideshow in the same resolution as created.

Configure Slide

This command calls the Configure Slide window. In this window you will define:

- The Slide Description.
- Continuation options.
- Display time.
- MIDI play mode.
- Photo CD source and configuration if a Photo CD slide.
- Image File name and path if an Image file slide.
- Wave and/or MIDI file names and paths if desired.

The number of the slide in the Slideshow Script is in the Configure Slide window title area.

To configure a slide:

- Type in information about the slide in the Slide Description box. This text appears on the Slideshow Script print out.
- Choose one of the three options for what actions should cause the Slideshow to continue:
  - Continue on <u>Mouse</u> Click - This will force the slide to continue when a Mouse Click occurs.
  - Continue on Key Hit - This will force the slide to continue when a any key on the keyboard is hit.
  - Continue on End of Sound - This will hold the slide display until the currently playing Wave and/or MIDI file has completed.
- Choose the maximum amount of time you wish the slide to play if none of the Continue on options have expired.   This has a maximum of 65 seconds. To make the slide display until the Continue on options are met, set the **Frame Duration** to a **-1**.
- Choose Loop MIDI if you would like the background music to continue play endlessly (MIDI file).

Hint: The Loop MIDI file will play until another MIDI file is defined or the slideshow is complete.

- Select the Edit Slide Path button to designate background music, voice-over files slide paths and Photo CD image configurations.

The upper portion of the window displays information about Photo CD Volume ID, image number, resolution, CD ROM drive designator, and display resolution.   This information is automatically provided if the image is inserted from a Photo CD.

- Click on the MIDI File button to select a MIDI file to play in the background. If the MIDI file is looped, it will play continuously as background music for the entire Slideshow.
- Click on the Wave File button to select a Wave file. This file is foreground or "voice-over" sound that plays on top of the MIDI file while the slide is displayed.
- If the Image is a Photo CD Image, choose to use either the Default CD Drive or the definitions of the Image Path.
- If the Image is not a Photo CD select the Image Path and filename using the Image Path button.

The image file window displays the Photo CD image or image file used for the slide.

Note: For a non-Photo CD image to be used, the image must be saved as an Image file first.   Images may be edited after insertion by depressing the Ctrl Key and clicking the image.   This will open the image in an image window for editing.   If the image is edited to be a non Photo CD image, the image must be saved as an image file before it may be re-inserted.

The Window Menu

The Window Menu menu works the same as discussed in the Image Editor section.

Introduction

The Slideshow Editor is an entirely different edit window. You enter the Slideshow Editor by double-clicking on an image in the Slideshow Script Window. The slide will be displayed in a full screen window with a floating Tool Bar for controlling edits.

Using the Slideshow Editor

About the Slideshow Editor

The Slideshow Editor will display the image exactly as it will be viewed in a slideshow.   It uses a floating Tool Bar for all of the editing tasks. In this edit window, the slide not the image is being edited.   Using the Tool Bar, you can perform certain editing tasks relating to the Slideshow itself, such as:

- Position the image and text.
- Add text.
- Add a background color
- Add a frame and frame color.
- Enlarge or reduce the image on the screen.
- Set timing (duration on screen).
- Add both music (.mid) *and* voice(.wav) annotation.
- Print slides as they appear.
- Save the slide layout as an image file.

Using the Tool Bar

You will usually edit a slide with the Tool Bar while displaying your image full size. To open the Slideshow Editor, click twice on an image in the Slideshow script window. A full screen window appears with your image at its full display size, and a tool bar on the left. This is a "floating" tool bar which you can position anywhere on the screen.

Parts of the Tool Bar

The Tool Bar tools are selected by clicking once on the Tool Button desired. Each Tool Bar location or button is described below.

Related Topics:

Slide Counter
Text
Move
Background Color
Frame
Magnify
Configure Slide
Play
Eye Dropper
Print
Copy to Disk
Go to Previous
Go to Next
Abort
OK
Color Selector

Slide Counter

2:6

The Slide Counter tells you how many slides there are and the current slide number. The Tool Bar above shows slide 2 of 6.

Text

A

This tool lets you add text to the image. When you click on this button, point the arrow to a location and click again, an insert window appears. Type the desired text in the insert window. If you want to move the text, click on the move image tool. Then, move the hand cursor over the text. Click and hold the mouse button down on the text and drag it where you wish. You can also move text you have just typed by holding down the shift key and dragging the text window.

Selecting Text Attributes

You can change the color, style, and font by selecting the text and then clicking *twice* on the text itself. This brings up a dialog box with typeface, text color, style, etc. Choose the text attributes you want from this box.

Move

This tool lets you move things around. Just click on the button converting the cursor to a hand. Then, click and drag the object you want to move. Use this tool for moving text as well as the image itself.

Background Color

Click this button to make the background behind the image the color which is in the Color Selector box (lower right box on the Tool Bar). See Color Selector below for changing this color.

Frame

Click this button and a window appears asking how many pixels wide you want the frame (2 to 10 is a good starting place). Type in the width you want and click O.K. The frame appears around your image. Notice that the frame is the same color as in the color selector box. If you would like a different color, select it with the eye dropper tool (described below) and repeat this step.

Magnify

Magnify controls the size of the slide on the display monitor. This button will toggle between displaying your slide full-screen, and displaying it at the normal size.   The full-screen display will always maintain its correct aspect ratio.

Configure Slide

This button will select the Configure Slide dialog box described in the Edit Menu. The dialog box configures the Slide attributes of each slide. The slide number being configured is indicated in the title bar.

Select the appropriate check box for Slideshow continuation with the *Continue on* options. The *Frame Duration* box lets you set the duration your image will be on the screen in seconds. You can also add MIDI and Wave sound to your Slideshow and slides (MIDI for background music; Wave for voice-over on each slide).

The Frame Duration may be set for up to 65 seconds.   If you want the slide to continue until one of the **Continue on** options is performed, enter a **-1** for the Frame Duration.

Click on the Loop MIDI check box to make the MIDI file play continuously during the Slideshow. Add a Wave file to each slide to provide voice-over. Click on the Edit Slide Paths button to define wave and MIDI files and their paths. Click the OK button when you're done.

Play

Click this button and Photo Factory will play the music files associated with this slide. Press the *Esc* key to stop the play.

Eye Dropper

Use the eye dropper tool to "pick up" color. Click once on the eye dropper to replace the cursor with the tool. Then, point at a desired color and click once to pick up the color. Hit the *Esc* key to close the tool. The selected color is indicated in the *Color Selector* box.

You can also **double-click** to pick up the color and close the tool in one operation.

Print

You can print your slides, along with background color, text, and frame with this tool. Photo Factory supports printing in both color and black and white on most high-quality printers, including bubble jet and dye sublimation color printers. The printed resolution will be the same as the displayed resolution.

Copy to Disk

Clicking on this button copies your slide to your hard disk. This is the image plus all additions you have made in designing your slide.   The slide may be saved in any of the seven supported file formats to any disk and path you select.

Go to Previous

This button steps you to the previous slide in the order you placed them into the Slideshow window.

Go to Next

This button steps you to the next slide in the order you placed them into the Slideshow window.

Abort

This button cancels all edits performed on the current slide and returns you to the Photo Factory window.

OK

....saves your work and returns you to the Photo Factory Window.

Color Selector

This button shows the currently selected background color. You can select the background color and border color with the eyedropper (above) or by clicking the Color Indicator. This brings up the color <u>palette</u> where you can select any color.

Creating Distribution Disks

About Distribution Diskettes

You may find it useful to assemble a Slideshow and copy it to   diskettes for viewing by someone else. With Photo Factory, all you have to do is create a distribution <u>diskette</u> and send it to its recipient. Of course, your recipient must also have a computer running Windows 3.1 or later and a <u>VGA</u> color monitor. Your recipient must also have sound capability to hear the sound portion of your Slideshow.   In Photo Factory this is called Export and Import.   The Export operation will copy all of the necessary files to support your slideshow to diskettes.   The Import will install these files on the recipient's computer.

Distribution Slideshow Considerations

You can get much more information on a <u>diskette</u> if you consolidate your Slideshow images using a compressed image format before exporting it to diskettes.   This operation is performed by the Colsolidate tool of the Slideshow File Menu.   You should also consider the recipient's computer system in consolidating the Slideshow before export.

Related Topics:

<u>Distribution with Photo CD's</u>
<u>Distribution for non-CD Drive Systems</u>
<u>Screen Size Considerations</u>

Distribution with Photo CD's

If the Slideshow is to be distributed with a Photo CD, leave all images in the Photo CD format.   This will take less <u>diskette</u> space in the Export operation.   The Photo CD ID and Drive Letter may be removed before the process allowing the Import utility to install the default CD drive for the recipient's computer.

Distribution for non-CD Drive Systems

If the recipient's computer does not have a CD Drive all Photo CD images should be converted to a file format.   The best format to use is <u>JPEG</u>.   This format will compress the images in <u>High Color</u> to manageable file sizes for the distribution <u>diskette</u>.

If the recipient's computer is slow or will not display in high color modes (i.e., 15, 16 or <u>24 bit</u> color) the JPEG images will take longer to display.   An alternative to JPEG is to change your images to <u>256 color</u> images using the standard (Fixed) <u>palette</u> before converting them to a file format.   The recommended file format for storing these images is GIF.

For a fast Slideshow with Graphic Images (not <u>true color</u> pictures), consider using <u>4 bit</u> (<u>16 color</u>) bitmap images.

In all cases the Consolidate tool is the best tool for performing the mass conversion of   your Slideshow images.

Screen Size Considerations

In the *Configure Slideshow* options, you may choose "***Hide*** <u>Mouse</u> ***during Play"*** and ***"Scale Objects to Fit Screen"*** before saving or consolidating your Slideshow.   These choices must be made before the Slideshow is exported to affect the recipient's version.   The Hide Mouse option is self explanatory, but the Scale Objects option needs your consideration.   Although this is handy in assuring the recipient's slides will scale properly to display as you created them, regardless of his screen resolution, this process will take time in running the Slideshow.   To eliminate this unnecessary time, you should save the Slideshow in the resolution of the recipient's display.   This allows the recipient's Slideshow playback to look exactly like yours, and to run as efficiently as possible.

Building Distribution Disks

With the Slideshow properly configured for distribution, given all of the considerations above, choose **Export Script** from the Slideshow File Menu.   You may also use the Export utility by selecting it directly from the Icon.

To Export a Slideshow:

- Enter the Slideshow file name in the Script edit box.   Use the Script button to browse for the name and path for the desired Slideshow.

- Select the Strip CD Volume Info check box if the Slideshow contains Photo CD Images (this option is not dimmed), and you do not wish the Photo CD Volume ID to be included with the slide requirement.

Note: If this choice is selected, remember that any Photo CD which contains that Image File Number may be used for the slide load.   This may not be the actual slide you desired.   This option is most useful when duplicate Photo CDs are to be used.   These CDs will not have the same ID.

- Select **Export Runtime Player** or **Screen Saver** if the Slideshow is only to be run on the importing computer.   This will export all necessary files to allow the Slideshow to be run without Photo Factory.   If the Slideshow is to be a Screen Saver, the recipient will need to select Photo Factory in the Control Panel to activate the Slideshow as a Screen Saver.

- Select the Export button.   (Note that the total amount of required disk space is dynamically updated as you choose the desired options.)

- An additional window will appear for you to choose the destination of the Slideshow.   Use the Browse button or enter the path desired.

- Press the OK button and the Export will begin.   The Export button is replaced with an Abort button and a progress line will appear.

Installing Distribution Disks

To install the distributed Slideshow, it is Imported to the recipient's computer.   If the recipient has Photo Factory, the Slideshow may be imported by selecting the *Import* <u>Icon</u> or by selecting *New* from the *File Menu* and choosing *Import Slideshow*.

Related Topics:

<u>Importing a Slideshow with Photo Factory</u>
<u>Importing a Slideshow to Run</u>

Importing a Slideshow with Photo Factory

To Import a Slideshow:

- Enter the Slideshow file name in the Script edit box.   Use the Script button to browse for the name and path for the desired Slideshow.

- Select either ***Import Runtime Player*** or **Screen Saver,** if they are highlighted, and the Import is not into Photo Factory.   These options will be available if the selected distribution disk contains these files.

- Select the Import button and enter the destination for the Slideshow.   Use the Browse button or enter the destination directly.

- Select OK to begin the import.

A progress bar is presented to indicate the progress of the installation, and it will disappear when the installation is   complete.   If you where importing the Slideshow with the Runtime Player, the Runtime Icon is installed in a Photo Factory Group of Program Manager with the name of the Slideshow.   The recipient may run the Slideshow by selecting the player icon.

Importing a Slideshow to Run

To import a Slideshow from diskettes on a computer that does not have Photo Factory installed, the process is similar to installing any windows program.

- From the Program Manager, select   File Menu, then Run.

- Enter the appropriate   disk drive letter followed by **:\Setup.exe** (e.g., **a:\Setup.exe**).

- The Import window will then be displayed as described in Import from Photo Factory above.

At the completion of the Import procedure the Photo Factory Group will be created with an Icon for the Slideshow.

Introduction

In the installation of Photo Factory, you were given the option of allowing a Photo Factory Slideshow to be used as Windows Screen Savers. When this option was selected the Photo Factory installation program did most of the work for you. It modified the Windows' *.ini* files to add Photo Factory for Windows to the Screen Saver list in the Windows <u>Desktop</u> Control Panel. This allows you to make your own Screen Saver using the Photo Factory Slideshow Script Window and select it for automatic play with the Windows Desktop Control Panel. If you didn't make this selection when you installed Photo Factory don't worry, we will tell you how to add it now.

Adding Screen Saver Capability

Initial Installation

When Photo Factory initially installs, you are given installation options to choose from. One of the options is **Screen Saver**.   With this selection, the installation program modifies the Windows *.ini* files and adds Photo Factory Slideshow capability to the Screen Saver.

Installing Later

If you didn't select the Screen Saver in the initial installation, you may do this now.   Simply perform the same steps as the first time, except only choose **Screen Saver**. (Refer to <u>Installing Photo Factory for Windows</u> in the **Installation** section for more detail.)

Hint: Don't worry about the message warning you of overwriting the existing files, Photo Factory Setup will not hurt any of your existing files.

Enabling the Screen Saver

Creating a Screen Saver

You create a Screen Saver Slideshow the same way you would create any other Slideshow. You can add any images you wish and play MIDI or Wave sound files.

Hint: When the screen saver is enabled in Windows, you will be given the choice of playing the sound, so you won't have to use it all of the time.

There are a couple of tips that could be helpful:

- Add images that are files instead of Photo CD images, so you won't require a Photo CD to play. You could use the Consolidate Convert to store PCD images as files.

- Since the Slideshow will continually Loop as a Screen Saver, you should use multiple slides placed in different positions on the screen to really save your screen.

Hint: To protect your screen even better, use different background colors as well.

- Use the **End of Sound** continue option on the last slide to prevent assure all sound files have completed play before the Slideshow repeats.

Turning On a Screen Saver

Select the Windows Control Panel from <u>Program Manager</u> and open the <u>Desktop</u> Control. Open the Screen Saver selection box and choose Photo Factory.

Now, select the ***Setup*** button and enter the Slideshow name.

Use the **Browse** to make finding the Slideshow and correct path easier.

You may also enable Password protection to the Screen Saver. This will prevent anyone else from gaining access to your computer while it is unattended.

Select Play Sound Files if you wish and Select OK. In the control, choose a time for the show to start and Select OK again.

You now have a Slideshow as a Screen Saver....

User Filters

The purpose of the User Defined Filter option is to give the Photo Factory user the ability to implement filter functions which may not be already supported. The filter is described as an array of values which, when combined with the image pixels, transforms the image.

The array of filter values is referred to as the ***Filter*** <u>Kernel</u>. The Kernel Size is defined by the X and Y dimensions in the Dialog Box and is always an ***Odd*** size (e.g. 3x3, 3x5). These values default to 3x3, but may vary between 1 and 7. Once the dimensions are defined, the appropriate Kernel matrix fields will be enabled for you to enter values. As in most Windows dialog boxes, use the ***Tab*** key to move between edit fields.

Once the Kernel matrix is filled in, you must calculate and enter the proper SCALE value. This value is the Sum of Kernel Values and is typically either ***0*** or ***1***. However, some filters may have a larger Scale factor (e.g. Blurring Filters). As a rule of thumb,   Kernels with a SCALE of ***1*** or larger will retain the original image, but Kernels with a Scale of ***0*** result in a threshold image.

The Bias field allows the user to specify a value which will be added to the <u>pixel</u> of interest after the Filter function has been calculated. This value can be used to scale the Brightness of the resultant pixel up or down. The affect of this value can be seen in the Emboss Filter where it is set to 128 and produces the Grayish color.

The Filter function calculates a Weighed Sum for the pixel of interest. The Filter Kernel is combined with a matrix of image pixels in the following manner:

pixel value = $((p_0k_0 + ... + p_ik_i)/scale)) + bias$

The pixel of interest always lies in the center of the matrix, hence the requirement for odd sizes. Note that if the Kernel element is ***0***, the corresponding image pixel will have no effect in the calculation.

As an example, look at a typical sharpening filter. Sharpening Kernels accentuate the edges of an image. This sharpens the image by brightening the pixels whose value varies greatly from neighboring pixels, leaving the other pixels largely untouched.

Related Topics:

<u>A typical Sharpening Kernel:</u>
<u>Photo Factory Kernels</u>

A typical Sharpening Kernel:

0	-1	0
-1	5	-1
0	-1	0

The above <u>kernel</u> has a Scale value of *1* and typically has no Bias. This filter has the affect of highlighting pixels which differ both horizontally and vertically from its neighbors. The diagonal variations have no affect.

-1	0	-1
0	5	0
-1	0	-1

Conversely, the above Kernel would accentuate the diagonal differences.

As the center number becomes larger, the affect of the neighboring pixels can be reduced. This is used to reduce the harshness of a filter. The harshness of the Kernel can be reduced by changing the *5* to an *8* and adjusting the Scale value appropriately (i.e., *4*).

The affect of any Image Filter is dependent on the image content, and a Filter that produces a desirable effect on one image may totally destroy another.

Photo Factory Kernels

Enhance Detail
Soften
Edge Detect
Emboss

Enhance Detail

Heavy

-1	-1	-1	Scale = 1
-1	9	-1	Bias = 0
-1	-1	-1	

Medium

0	-1	0	Scale = 1
-1	5	-1	Bias = 0
0	-1	0	

Light

1	-2	1	Scale = 1
-2	5	-2	Bias = 0
1	-2	1	

Sharpen

0	0	0	Scale = 1
-1	3	-1	Bias = 0
0	0	0	

Sharpen (min)

0	-1	0	Scale = 8
-1	12	-1	Bias =0
0	-1	0	

Soften

Blur

1	1	1	1	1	Scale = 25
1	1	1	1	1	Bias = 0
1	1	1	1	1	
1	1	1	1	1	
1	1	1	1	1	

Low Pass

0	1	0	Scale = 6
1	2	1	Bias = 0
0	1	0	

Averaging

1	1	1	Scale = 9
1	1	1	Bias = 0
1	1	1	

Edge Detect

LaPlace 1

0	1	0	Scale = 1
1	-4	1	Bias = 0
0	1	0	

LaPlace 2	-1	-1	-1	Scale = 1
	-1	8	-1	Bias = 0
	-1	-1	-1	
LaPlace 4	1	-2	1	Scale = 1
	-2	4	-2	Bias = 0
	1	-2	1	
Gradient	-1	0	0	Scale = 0
	0	1	0	Bias = 0
	0	0	0	
Horz Edges	0	-1	0	Scale = 0
	0	1	0	Bias = 0
	0	0	0	
Vert Edges	0	0	0	Scale = 0
	-1	1	0	Bias = 0
	0	0	0	

Emboss

1	0	0	Scale = 0
0	0	0	Bias = 128
0	0	-1	

A special filter function exists which is called the ***Identity Filter***. This is defined as the kernel which is the image itself.

0	0	0	Scale = 1
0	1	0	Bias = 0
0	0	0	

This kernel can be added to any other kernel and has the effect of adding the Filtered image back onto the original. This is used with kernels with a Scale of *0*.

Glossary of Terms

1 bit

(2 color) Refer to Halftone.

15 bit

(32 thousand Color)A graphics display format which provides a 15 bit word to describe the color of a single pixel of display.   In 15 bit mode, each pixel may contain 32,768 possible colors.   When a 24   bit image is loaded into a computer configured for displaying in 15 bit color, the colors are interpreted to the closest fit within the 32,768 available colors.   This mode will provide a high quality color image, but requires less computer resources to display.

16 bit

(64 thousand Color) A graphics display format which provides a 16 bit word to describe the color of a single pixel of display.   In 16 bit mode, each pixel may contain 65,536 possible colors.   When a 24   bit image is loaded into a computer configured for displaying in 16 bit color, the colors are interpreted to the closest fit within the 65,536 available colors.   This mode will provide almost a true color image, but requires less computer resources than the 24 bit mode to display.

16 color

Refer to 4 bit.

16 million Color

Refer to 24 bit.

2 color

(1 bit) Refer to Halftone.

24 bit

(16 million Color **or** True Color) A graphics storage format which provides a 24 bit word to describe the color of a single pixel of display.   In 24 bit mode, each pixel may contain 16,777,216 possible colors−more that the human eye can see. 24bit color images show smooth curves and diagonals and shadows (no jags or patching).   This is considered all possible colors and gradation of colors available. In this mode any color may be created without the use of a palette.

256 Color

Refer to 8 bit.

4 bit

(16 color**)** A term used to describe the number of possible colors available for display at one time. This graphics format is stored in 4 bits. In this mode the specific colors may be selected by defining a palette containing each of the 16 possible colors. 4 bit color is available in the Standard VGA default available in the Windows VGA driver.

8 bit

(256 Color) A term used to describe the number of possible colors available for display at one time. This graphics format is stored in 8 bits. In this mode the specific colors may be selected by defining a palette containing each of the 256 possible colors. 8 bit color looks pretty good with only minor jags and patching. Most computers use 8 bit color. 8 bit color uses less memory to display images.

8 bit Gray Scale

This term is used to describe the monochromatic tonal range (gradations of black and white) used to display a color picture.   Like 256 Color, a palette of shades is created to display the image as a gray-scale representation. 8 bit Gray Scale is the least demanding of all on your computer and is useful for printing images that will be copied on office copying machines, etc.

Byte

(Pronounced "bite") a sequence of adjacent bits operated upon as if they were a single unit.   A grouping of eight bits is called a byte in most computer systems.   A bit is a binary digit.   It is the smallest unit of data in a computer system.

CD-ROM

Acronym for Compact Disc Read Only Memory – a compact disc that stores large quantities of information in read-only format.

Clipboard

A <u>Microsoft Windows</u> application which may be used to transfer information and images between various Windows programs.

Clone

The creation of a duplicate image window within Photo Factory for Windows.   This clone will maintain all of the characteristics of the original image loaded.

Crop

A method of discarding portions of an image which are not desirable.   Cropping is accomplished by selecting the portion of the image desired, discarding the remaining periphery of the image.

Desktop

A term used in <u>Microsoft Windows</u> to describe the background area of a window.   This is the area confined within the Windows program window if this program uses the MDI interface standard.

DIB

Device **I**ndependent **B**itmap - This is a universal image bitmap format used by OS/2 and Microsoft Windows.   Photo Factory will only accept Windows RGB encoded (no compression) DIB formats when pasting images from the Clipboard.

Diskette

A portable magnetic storage media used in computer systems.   Standard sizes used are 5.25" and 3.5" with storage capabilities from 360 kilobytes (360,000 bytes) to 1.44 megabytes.

File Manager

A <u>Microsoft Windows</u> application program for conveniently moving program and data files within computer disk drives.

Flip

The rotation of an image around the horizontal axis.   This is the equivalent to rotating the image twice in the same direction.

Floyd Steinberg

This is one of the most common methods for selecting colors for the <u>palette</u>. It will   diffuse the error to the neighboring pixels.

Gray Scale

Refer to 8 bit Gray Scale.

Gray Scale

A term in computer display which provides monochromatic tonal values for color images (see <u>8 bit</u> <u>Gray Scale</u>).

Halftone

(2 color**)** This is a black and white image with no shades of gray.   It is also called 1 bit.

high color

Refer to 15 bit or 16 bit color.

Icon

A term used in computer programs to describe an image which represents either a program or program item.   In Photo Factory for Windows, the photo Thumbnails are used as the Icons for the window containing that Photo.

JPEG

"Joint Photographic Expert Group" file format.   As applied in Photo Factory for Windows, this is the JPEG File Interchange Format JFIF.   This format supports 24 bits per pixel and 8 bits per pixel gray scaled images.

Kernel

This term is applied to the Filter Kernal in Photo Factory for Windows. A Filter Kernal is the matrix of pixels which are used to calculate the value of each <u>pixel</u>. In filters, each pixel is adjusted in color and intensity by applying algorithms, or formulations based on the values of the surrounding pixels. The number of pixels used is the Kernel.

KODAK Photo CD

A (C) Compact (D) Disc containing a special Image compression format created by Eastman Kodak company for photo storage.

List Box

A selection window within a <u>Microsoft Windows</u> program which allows convenient access of choices with a <u>mouse</u> and on screen pointer (or arrow).

Megabyte

From the term Mega meaning million, a megabyte is one million bytes.   (See also <u>byte</u>)

Microsoft Windows

An IBM PC DOS compatible program created by Microsoft Corporation which produces a complete operating environment for Windows' Application programs like Photo Factory for Windows ™.

Mouse

A style of computer control device which allows the operator to move an arrow on the display by moving the device, and select program actions by pointing the arrow and depressing buttons on the device.

Palette

A group of colors which provides the choices necessary in image presentations.   The number of colors are defined by the color mode selected (e.g. <u>16 color</u>-<u>4 bit</u>, <u>256 color</u>-<u>8 bit</u>, etc.).

Pixel

A pixel is the smallest resolution element in a video display. It may be considered the same as a dot of display. For example, a video system set to 800 x 600 pixels will have 800 colored pixels in the horizontal direction and 600 in the vertical.

Program Manager

A <u>Microsoft Windows</u> application which allows easy access to programs by storing their program calls as Icons within groups (or display windows).

SVGA

An acronym for Super <u>VGA</u>.   This is a computer display resolution beyond the standard VGA capability. This term may apply to any number of VGA resolution capabilities beyond that of the standard.

Thumbnail

A term referring to a single, miniaturized image that appears on an index print of the Photo CD.   This same image is used in selecting the photo for view.

True Color

Refer to 24 bit.

VGA

An Acronym for Video Graphics Array.   This is a standard of computer display resolution which defines the screen as divided into 480 lines containing 640 dots (pixels) per line.

Zoom

A method of selecting a portion of an image and magnifying the selected portion.   Like cropping, the periphery portion is discarded, and the selected portion is magnified by the selected factor (times 2, times 4, etc.).

Hint: Double-click is clicking the Left <u>Mouse</u> Button twice in quick succession.

Hint: The Photo Factory installation will not make all file associations for <u>File Manager</u>.   You may add the associations if desired.

Hint: Click on the RESET button if you are not sure what defaults to set.

Note: The <u>Z</u>oom factors allowed are based upon the resolution of the display image.