# PixFolio
## Image Catalog System

**User Guide**

Presented below are a number of topics of interest to PixFolio Users.

**Object Embedding and Linking**

**Options and Miscellaneous Topics**

**Overview**

PixFolio is  designed to assist the user in managing a collection of graphics images so that they may be readily retrieved when desired.

Central to the purpose of PixFolio is the ability to read a variety of different graphics formats produced by many popular programs. Also of major value to users is the ability to convert images from one format to another.

The central theme of PixFolio is the concept of the "Catalog". A catalog is like a disk file directory in that it is an index to a file. But PixFolio catalogs go beyond being just a simple index. PixFolio allows the user to annotate catalog entries with his own comments. The user can supply keywords to a catalog entry  so that searches can be made to select images meeting the search criteria.

With graphics images taking up vast amounts of valuable and expensive disk space, it becomes necessary to keep them on removable floppy disk media. In many cases, only one or two images will fit on a floppy disk resulting in a modest sized graphics collection occupying dozens of diskettes. PixFolio is able to keep track of these "off-line" copies; they are referred to as "backup" copies even though in many cases, the floppy disk copy may be the only storage location. Therefore, when the user desires to view one of these copies, it is easy to locate the right diskette.

There are many programs available which allow extensive editing of images using sophisticated techniques. While PixFolio possesses a number of editing tools that can be used to manipulate images in various ways, it's main purpose remains that of cataloging and keeping track of images. Even so, PixFolio possesses a basic set of editing tools that may satisfy most of the needs of users. Images can be rotated, resized, flipped about an axis, cropped and expanded. In addition, PixFolio offers the ability to dither images. Dithering is a means of displaying images whose color resolution exceeds your video system's capacity.

PixFolio also supports the Windows Clipboard so that graphics formats not directly supported by PixFolio can be imported via the clipboard or PixFolio can export an image via the clipboard to another application.

PixFolio utilizes the **Microsoft Multiple Document Interface** (MDI) which allows PixFolio to display multiple images concurrently plus one or more Thumbnail View Windows.

PixFolio also supports Microsoft's **Object Embedding and Linking** protocol as a server application. This allows you to link or embed images supported by PixFolio in any **OLE** client application such as Windows Write or Word For Windows 2.0.

PixFolio will also accept a file name "dropped" on it from File Manager.

## Catalogs and Their Uses

Catalogs are in simplest terms, a list of images. The content and scope of a catalog is left to the user to define. For example, you may wish to catalog images by project or usage. Or you may wish to catalog images by size, color resolution, graphics format, content, etc. PixFolio can easily handle which ever way you want.

Catalog content does not necessarily have to be exclusive. A given image need not be represented in only one catalog; it can be located in more than one catalog at a time.

## Creating a Catalog

PixFolio always maintains at least one catalog. However, the user may add as many catalogs as his or her system's disk storage will permit.

Before delving into the details of creating a catalog, it is worthwhile to explain a couple of attributes associated with a catalog. These attributes are entered via the Catalog Select Catalog dialog, an example of which is shown below:



## Catalog Select Catalog

Name  Each catalog defined in PixFolio has a name. The initial catalog created the first time that PixFolio is run has the name "Default". The name can be anything that is meaningful to the user. For example, you may name a catalog "GIF Images", "640x480", "Ajax Contract" or "Nature", relating to the content, format or use of the images that the catalog will maintain. The name of a catalog can be changed at any time by the user.

File Name The file name of a catalog again is user defined. Any filename can be used which is recognizable by DOS. PixFolio catalogs have filename extensions of "CAT" & "CIX" which cannot be changed by the user.  Also defined as part of the filename is the path; that is to say the disk drive and subdirectory where the catalog and it's associated index resides. It is suggested that the location of a catalog be in the same directory as the majority of the images contained in the catalog since the catalog's path also becomes the default path for accessing the images.

File extensions If a given catalog is to contain only certain graphics formats, the default file extensions for files displayed in the file open dialog can be defined for each catalog.

Volume A volume name may be optionally specified for a catalog. If present, the volume name of the drive containing the catalog will be checked prior to opening a catalog. This option is useful when a catalog exists on a removable drive such as a Bernoulli box. If the correct volume is not mounted, you will be prompted to insert the proper volume.

Each catalog defined in PixFolio is represented by a **Catalogx =** entry in the WIN.INI file. These entries are automatically maintained by PixFolio. The one case where the user might have to manually modify the WIN.INI file entry is if he or she wishes to move or rename a catalog filename.

The actual creation of a catalog is done via the Catalog Select Catalog command. When creating a new catalog, the user must supply a name for the catalog, a filename and path and a list of default file extensions. The volume ID is optional.

**Changing Catalog Attributes**

The name of a previously defined catalog may be changed along with the default file extensions by using the Catalog Select command. Also, the optional volume ID may be changed.

**Deleting a Catalog**

A catalog may be deleted by using the Catalog Select command. Deleting a catalog has no affect on the images that were contained in the catalog.

**Cataloging an Image**

There are two methods which can be used to catalog an image. The first is the manual way by selecting Catalog Catalog command when an image is displayed. The second is to automatically update a catalog from a list of image filenames via the Catalog Build command.

**Manually Cataloging**

The first method will probably be more convenient for cataloging images one at a time. Where many images must be cataloged, the second method will be preferred. The second method is useful in initially establishing a catalog.

An example of a catalog entry is shown below:

The above illustration is an example of the Catalog Catalog command. It will  bring up a dialog box with a number of fields that you can enter into. Other fields are updated by the program.


**User Fields:**

Title       This is the title of the image.If a GIF89a image has a title, it will be filled in automatically. The maximum number of characters that can be entered is 59, including carriage returns and line feeds.

Keywords    This field can contain a number, up to the length of the entry box, of keywords to be used for searching. These keywords can be used to select  a list of files meeting requested search criteria. The maximum number of characters that can be entered is 87.

Description This field can be used to enter any descriptive data concerning the file up to a limit of 1200 characters. This field can be scrolled and edited using standard editing commands. If a GIF89a image has text data included with it, it will be placed here.

Catalog     Dropdown combo listbox used to select the catalog to be updated.

**Program Fields:**

Filename    The name of the file.

Pathname    The primary location (hard disk) pathname and volume label are displayed as well as the backup(floppy disk) location. Therefore, there can be two access paths for the file.

Primary Vol The volume name of the primary location.

Backup Vol & Path The volume name and path of the backup floppy disk.

Size        File size in bytes.

Date & Time Creation date and time of the file.

Info      The height, width , number of colors and file format are displayed in a box in the lower left corner.

There are several functions which can be performed by pressing the following buttons:

Catalog/Update Update the catalog; "Catalog" means that this is a new entry. If desired, the target catalog can be changed beforehand.

Uncatalog   Delete the catalog entry. This button will be grayed if there is no catalog entry to delete. This option does not delete the file itself.

Cancel     Cancels the dialog and returns you to the application.

Move       Moves or copies the file to some other location.

(image)     The "thumbnail" image is itself a button. When the original image is displayed, clicking on it will cause it to be re-generated. this is useful if you had previously cataloged the original image and now have made a change to it like brightening it or cropping it. In Browse mode, clicking on the image has no effect.

Note: The above buttons are redefined if the dialog is entered via the CATALOG_BUILD command.; "Catalog" or "Update" becomes "Next", Uncatalog becomes "Previous" and "Move" becomes "View".

**Catalog Build Function**

The second method of cataloging images is more suited to making multiple updates to a catalog.

## Select Items to Catalog

**Build File Name:**

152A.BMP
AUTO.WPG
FROGGY.BMP
TEST.BMP

**Catalog:**

General

**Directories:**

d:\gif

🗁 d:\
  🗀 gif
    🗀 atigif

☒ Show All
☐ Select all
☐ Auto Update
☒ Stop on Error
☐ Force Update
☐ Follow Tree

**List Files of Type:**

User Files

**Drives:**

💾 d: drive d

Build

Info...

Help

Cancel

---
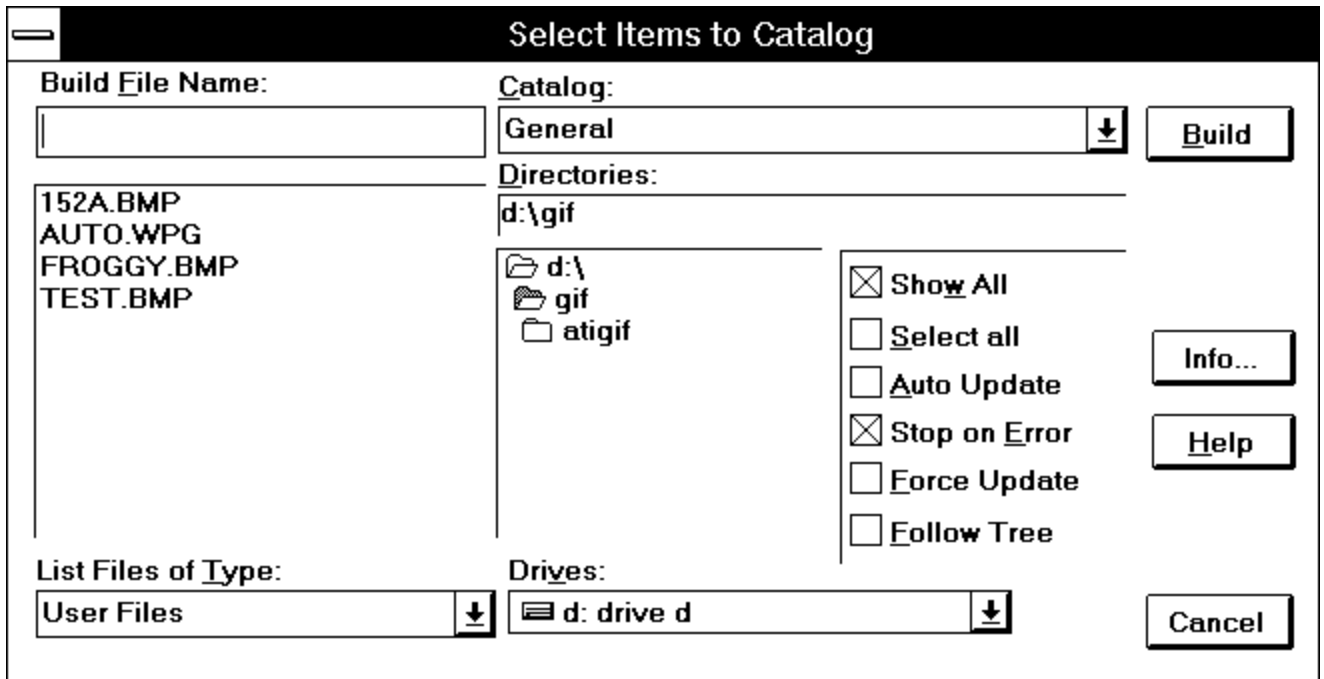
**Catalog Build Dialog**

The listbox contains files that can be selected to be updated to the catalog. When a file (or files) is selected and the BUILD button is pressed, the image will be read in and cataloged. The **Auto Update** option, if off, allows for fully automatic updating of the selected files; otherwise, the user must press the **CATALOG** button for each file after updating the keywords, description and title information. To facilitate building all the files for an application or on an entire CD-ROM volume, the **Follow Directory Tree** option can be turned on to list all files in subdirectories of the current directory.

If the **Show All** option is off, the listbox will only display those files that are not cataloged in the selected catalog. The Select all option can be used to select all files at once; it will toggle on/off the selection status of all files displayed.

**Stop On Error** can be turned on to bypass prompts for error or warning messages such as when large 24 bit files are read.

A feature of Catalog Build is that images that are already cataloged will not be read to create a thumbnail. However, the catalog entry will be updated with backup volume and path information for files on floppy disk. However, if you wish to reconstruct the thumbnail for catalog entries that already exist, you can turn on the **Forec Update** option.

Another feature of Catalog Build is that if a floppy disk containing images is processed and the floppy disk is not labelled, PixFolio will prompt you and label the disk for you so the catalog entry can indicate the volume id.

**Maintaining Catalog Information**

There are two broad categories of information that are kept in the catalog entry for an image. First, there is file attribute information such as file size, date created, format, etc. This data cannot be changed directly by the user. Also included in this category is a "thumbnail" representation of the image which is used in various types of displays of catalog information.

The second category of information maintained for a catalog entry consists of entries for Title, description  and Keywords. All of these elements can be directly modified by the user. In most cases, this data must be supplied by the user. In a few cases such as for GIF89a images, the title and description are obtained from the image but can be edited by the user.

**Accessing Catalog Information**

There are four means by which the user can access and change catalog information:

1.Via the Catalog Catalog command. By means of this command, a catalog record can be created or updated for the currently displayed image.

2.Via the Catalog Browse command. This command lets you view, sequentially, the contents of a catalog. User supplied information such as  title, description and keywords can be changed. An important option that can also be accessed is the Search function. The scope of entries that will be displayed in a catalog can be modified by setting search criteria. Besides searching on keywords defined for each entry, a search can take into account such attributes as  file size, format, number of colors or date.

3.Via the Catalog Build command. This command provides a convenient means of updating a catalog with a large number of entries. This can be done automatically or the function can pause for each image to allow the user to update title, description or keyword information.

4.Via the View Thumbnails command. This command will cause a display of as many "thumbnail" images of cataloged items as can be displayed in the currently displayed window. Scrolling commands either from the keyboard or mouse enable the user to scroll through all of the entries in the catalog. By clicking on a "thumbnail" image, a menu can be displayed. One of the options on this menu is a selection that will display the current catalog entry. By this means, the user can update the title, description or keywords.

Information other than user supplied title, description and keywords is automatically updated when exercising the Catalog Catalog or Catalog Build commands. The Catalog Build command is particularly useful for updating a catalog with the location of files. For example if you previously had copied images to floppy disks, the Catalog Build command could be used to update the catalog with the "backup" locations of the files.

**Multi-Catalog Updating**

Users will undoubtedly find it necessary occasionally to move an image from one catalog to another. This is very easy with PixFolio. There are two ways that this can be done short of simply cataloging an image from scratch in another directory.

1.Assuming that an image is already cataloged, the Catalog Catalog command should be used to display the catalog entry. Then simply select a new catalog using the catalog combo listbox to pick the catalog that you would like the image to be in and then press the catalog button. This method has its drawbacks however. The original catalog entry in the original catalog is still present and must be manually deleted if it is no longer desired. Secondly, the original catalog is no longer selected so, to continue working in that catalog, the original will have to be re-selected.

2.A superior way of moving images from one catalog to another can be invoked via the View Thumbnails command. Individual "thumbnails" can be "marked" for some future action. Then the Process Thumbnails command can be used to either Move, Copy or Delete all of the marked thumbnails. Moving or copying thumbnails to another catalog does not entail replacing the current catalog selection so that operation can continue uninterrupted in the current catalog.

**Restricting the Display of Catalog Entries**

When dealing with large catalogs consisting of hundreds of images, it may be desirable to restrict the display of catalog entries to those meeting certain criteria. This can be done using the Catalog Browse Command to apply search criteria to the catalog list. Alternatively, individual catalog entries can be "marked" and hidden from the Thumbnail View screen.

The Catalog Browse command provides a dialog box listing the entries in a catalog. The target catalog can be changed by selecting another catalog from the Catalog combo listbox.
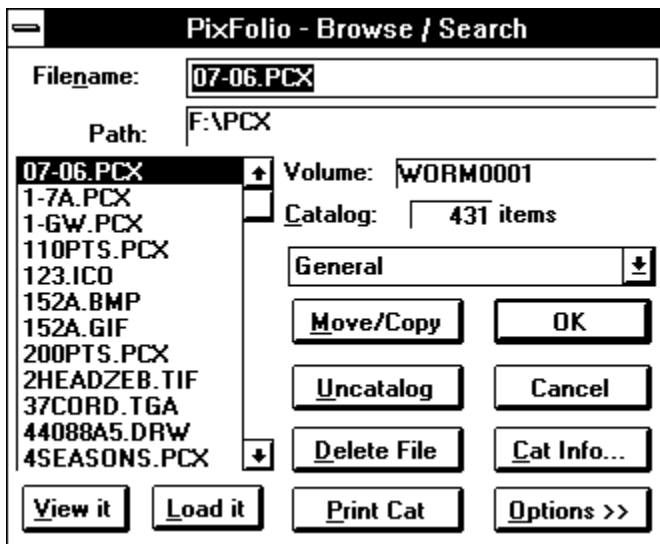


**Catalog Browse**

There are a number of functions that can be applied to a catalog entry:

Move /Copy File The file can be moved or copied to another location. The catalog will be updated with the new location of the file.

Delete File  The file can be deleted from the hard disk. The file is also deleted from the catalog.

View It/Load It The file can be opened and viewed. View It will end the Browse Dialog whereas Load It will load the image but the dialog will remain active.

OK The catalog entry for the file can be viewed and name is the same as pressing the OK button. When the catalog entry dialog is displayed, the OK , Delete and Move buttons are replaced by Prev, Next and View respectively.

Cancel Cancels the dialog returning you back to the main viewing window.

Uncatalog Deletes the file from the catalog only.

Print Cat Prints the selected catalog entry.

**File Search**

Four  different search criteria can be applied to a catalog to restrict the catalog list to a subset. The four categories  that can be used for the search are:

1.   Whether a backup copy exists.
2.   File Format, e.g. GIF87a, TIFF, PCX, etc, as they appear in the "info" box on the catalog display.
3.   Match on one or more keywords.
4.   Match on special conditions, e.g. file size, width, height, number of colors or backup volume name.

The Search  function can be accessed by pressing the Options >> button:
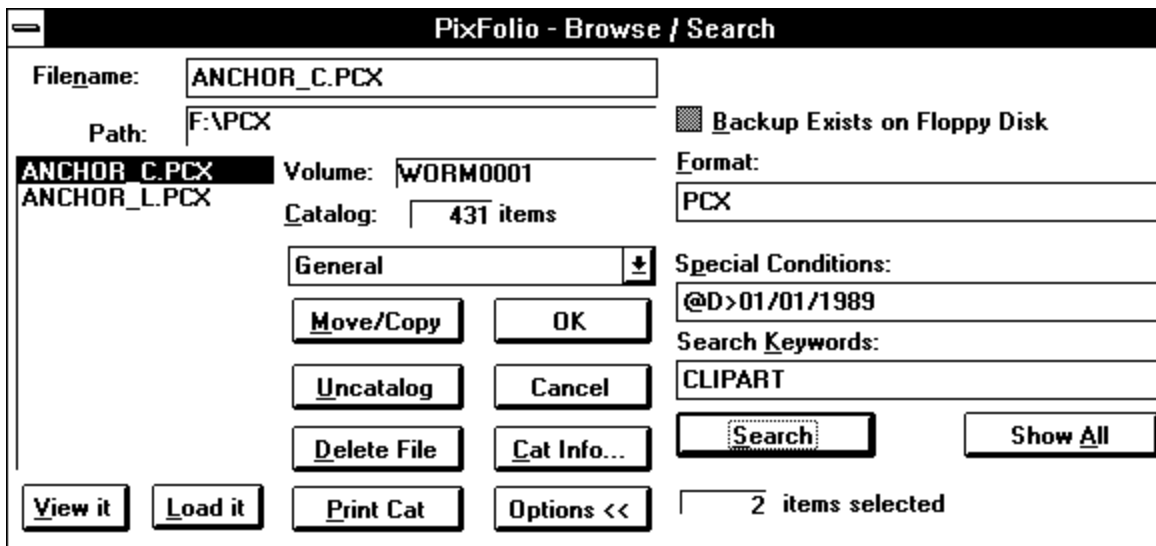
**Catalog Browse:** After a search operation.

To search, enter the desired search value(s) in either the Format edit box (29 characters max.), Special  Conditions (87 characters max) or the Keywords (87 characters max) edit
box. If nothing is entered in a box, it will not be used in the search. The "Backup File" checkbox is a three-state control. If the box is gray, then it will have no affect on the search.

If an edit box is blank, then all catalog records that do not have a backup location will be selected. If the box is checked, only those catalog records with a backup file location will be selected. The three search criteria are ANDed to select a record. That is to say, if search criteria 1 (Backup) is satisfied AND search criteria 2 (File Format) AND search criteria 3 (Special Conditions) AND search criteria 4 (keywords) are satisfied, the record will be selected.

Wildcard characters "*" & "?"  can be used in search arguments. For example, to select all "GIF" files, the search argument "GIF*" will select both GIF87a & GIF89a". Either spaces or commas may be used to separate  search arguments. The underscore character "_" may be used in place of a space in a search argument if that space is significant. For example STAR_TREK will search for the string "Star Trek" while STAR TREK will hit on either "Star"
or "Trek". Case is not significant ins searches.

In order to include in the search special conditions such as file size, image width, etc, PixFolio has  5 special search arguments that can be used in the Format and Special Conditions boxes. Do not use one of these special codes in the Keywords box! The special codes all start with an "@" sign followed by a Code for the particular value to be tested for, an operator ( "<" - less than, "=" - equal . "#" - not equal, or ">" - greater than) , followed by the value to be tested for.

The valid codes are:

"B" - backup volume name.
"C" - number of colors, 2, 16, 256.
"D" - date in format mm-dd-yyyy
"H" - height of image.
"P" - primary path name
"S" - file size in bytes.
"W" - width of image.

Some examples:

@W=320    select images whose width is 320 pixels.
@D>01/01/1991 select all dates later than January 1, 1991.
@B=GIF0020  select all images residing on backup volume "GIF020"
@C>16    select all images with more than 16 colors.
@P=C:\PIXFOLIO   select all images in subdirectory "C:\PIXFOLIO"

The catalog will be searched for records meeting the desired criteria when the Search button is pushed. At the completion of the search, the new catalog list will be displayed in the listbox. To change the search criteria, enter new search values and press Search again.

The modified catalog list will be in force until the "Show All" button is pressed, a new catalog is selected or another search operation is performed. The VIEW THUMBNAIL VIEW command will only display the currently selected catalog entries.

## Viewing Images

The method used for viewing an image depends upon whether the image is cataloged or not. If an image is not cataloged, the only way to view it is to use the File Open command to locate the file and then read and display the image. As an alternative, however, PixFolio will display an image that is "dropped" on it from File Manager. Once an image is displayed, it can be edited or cataloged in the catalog of choice.

Once an image is cataloged however, it can be viewed by several means.

1. From the Catalog Browse dialog box, the image can be displayed by pressing the "View button.

2. From the View Catalog Entry dialog box, again, the "View" button may be pressed. The View Catalog Entry dialog is activated by double clicking on a file name in the Catalog Browse dialog or by pressing OK.

3. From the View Thumbnails display, double click with the left mouse button or click the right mouse button to bring up the pop-up menu and  then  select the "View:" option from the popup menu.

More than one image can be viewed by selecting the "mark" option from the pop-up menu and then select "Process Thumbnails". This dialog will allow a variety of actions to be taken on marked thumbnails including opening up an imagage for viewing.

## Supported Formats

Graphic formats supported by PixFolio are:

| | |
|---|---|
| BMP/DIB | Windows bitmap format. |
| CLP | Windows Clipboard file |
| DRW/GRF | Micrografx vector file formats (read only). |
| EPS | Encapsulated Postscript imbedded TIFF preview images. *(Read Only)* |
| FLI/FLC/CEL | Autodesk Animator FLI/FLC animation files. *(Read only)* |
| GIF | CompuServe Graphics Interchange Format. PixFolio supports both the GIF87a and |

GIF89a standard. ("The Graphics Interchange Format (C) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark Property of CompuServe ")

| | |
|---|---|
| JPG | JFIF format JPEG compressed images. |
| ICO | Windows Icon |
| IFF/LBM/CE | Deluxe Paint II LBM & IFF files. The file extension "CE" is created by Digital Vision's |

Computer eyes video capture product.

| | |
|---|---|
| IMG | GEM/IMG (Digital Research) format. (Read Only) |
| MAC | Macintosh MACPAINT files(Read Only) |
| PCX | Z-Soft Paintbrush files. |
| RLE | CompuServe Run Length Encoded file format. |
| TGA | Targa file format.  (TrueVision Advanced Raster Graphics |

|       |                                            |
|-------|--------------------------------------------|
|       | Array)                                     |
| TIFF  | Tagged Image format.                       |
| WMF   | Windows Metafile.                          |
| WPG   | WordPerfect Graphics WPG files. (*Read only*) |

Color Resolution Formats

Images can be read in several resolutions:
1 BPP  1 bit per pixel or two colors, black & white.
4 BPP  4 bits per pixel or 16 colors.
8 BPP  8 bits per pixel or 256 colors.
24 BPP 24 bits per pixel or 16 million colors.

The number of colors displayed will be determined by the the maximum number of colors that your video display and driver software can handle. PixFolio will retain all color information in an image even if it can't be displayed properly. For example, if you are using the standard VGA driver that comes with Windows, you can only display the 16 colors that Windows uses. If you read an image that uses 256 colors most of the colors will be displayed using the "nearest" color. The result in most cases could be described as awfull. PixFolio offers a workaround for this situation with its Auto Dither option. Dithering is a way of simulating the display of many colors by substituting various combinations of the 16 colors and fools your eyes so that the image appears to have more shades of color than can be actually displayed. Turning Auto Dither on will force PixFolio to automatically dither images for display if they have more colors than the display can present.

**ThumbnailView**

PixFolio offers a graphical method of viewing the contents of a catalog via the Thumbnail View option. Selecting View Thumbnails will result in a the display of the "thumbnail" pictures created for each catalog entry. PixFolio will display as many "thumbnails" as will fit in the current window dimensions. For best results, it is suggested that the window be expanded to a full screen.

Only those items in the current catalog that have been selected and which have not been "hidden: will be displayed unless the Catalog - Display Hidden option is active. Catalog entries are normally displayed in alphabetic sequence, but the user can define a user-defined sequence by moving the individula thumbnails around to suit.
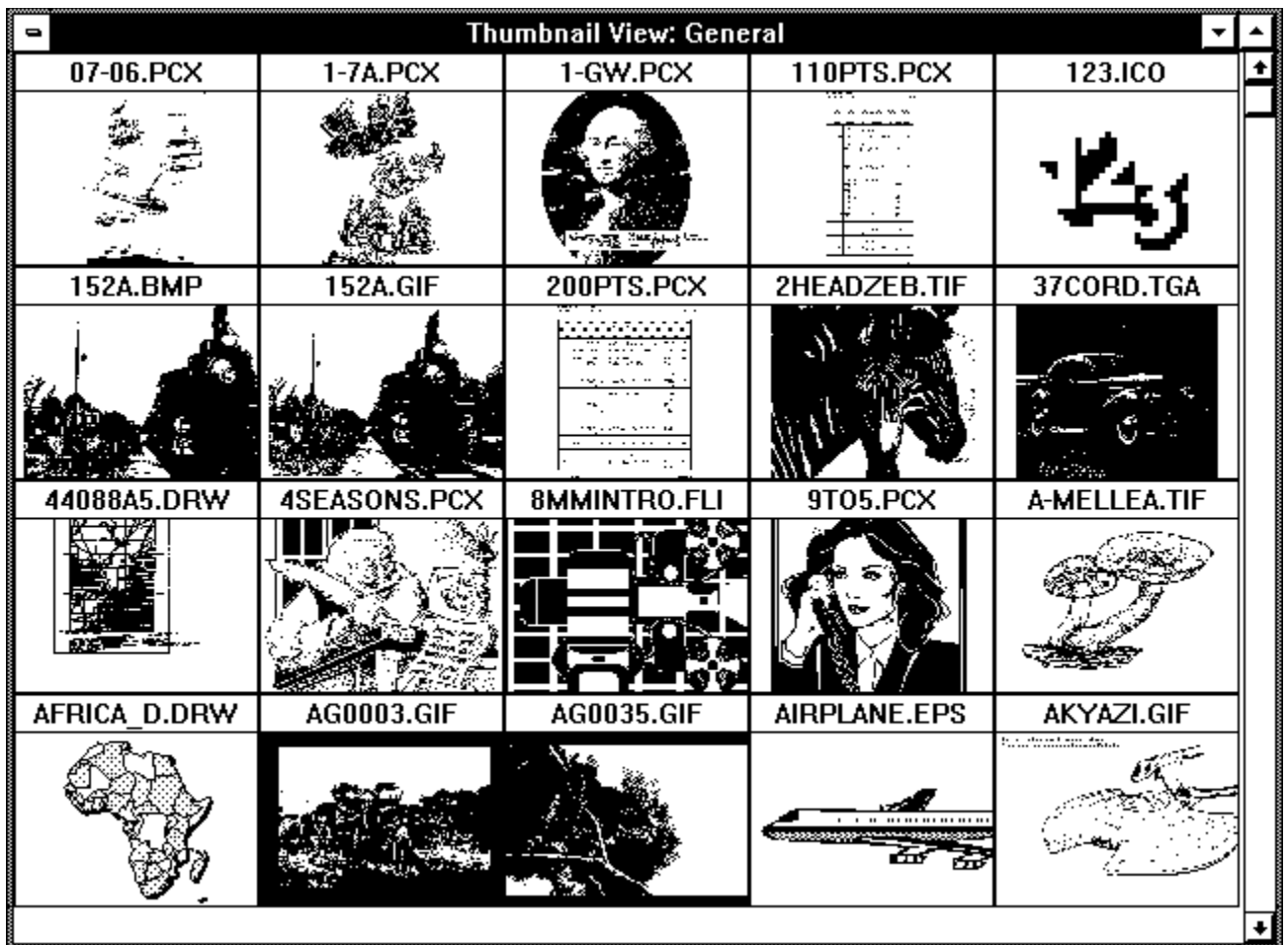


**View Thumbnail View**

The content of the display will be dependent upon the selection criteria currently in effect. The Catalog  Browse command can be used to restrict the items that will be displayed. Additional options available via a pop up menu allow for selected thumbnails to be "hidden" from view.

The selected contents of a catalog can be browsed by using the Page-up or Page down keys or the up and down arrows to scroll up or down a page or line respectively.

A pop-up menu can be displayed by holding down the left mouse button while over a "thumbnail". The selections on this menu offer the following commands:
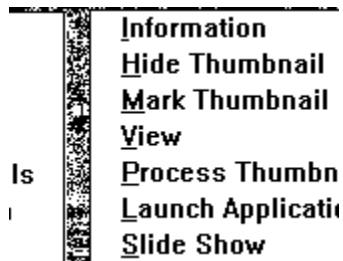


**Pop-up menu**

Information Display the catalog entry for the image. User supplied data such as description, keywords and title can be changed if desired.

Hide Thumbnail If this command is selected, the thumbnail will be removed from the display.

Mark Thumbnail This command marks or un-marks the thumbnail for some further action using the Process Thumbnails command explained below. Marked thumbnails are checked and will have an asterisk"*" next to the file name in the title bar.

View Thumbnail This command will cause a full size view of the image to be displayed.

Add Thumbnail This command is only present when the CATALOG - DISPLAY HIDDEN option is on. it's intended purpose is to enable you to "unhide" a thumbnail that has been previously hidden or which was not selected by the Catalog Browse command.

Process Thumbnails  This command will allow the user to perform one of the following actions on all previously marked thumbnails:

> **Move** the catalog entries to another catalog.
> **Copy** the catalog entries to another catalog.
> **Delete** the catalog entries.
> **Hide** the catalog entries.
> **Print** the catalog entries.
> **Mark** All catalog entries.
> **View** the image(s).
> **Unmark** All catalog entries.

> **Move/Copy Files** Move or copy marked files to some other drive or directory. The determination of whether to "move"or "copy"is made in the dialog that is presented to select the target catalog. A checkbox option can be checked as desired if you do not want to be prompted for each file that is marked. In this case, subsequent files will all be moved or copied to the same target location.

Another option can be set to not update the catalog with the new location of the files. This option is intended to be invoked when you are making copies of files for some external use. For example, you wish to copy a list of marked files to a floppy disk to give to another user.

**Add** Add marked entries back to the display. (Only present when the Catalog Display Hidden option is in effect).
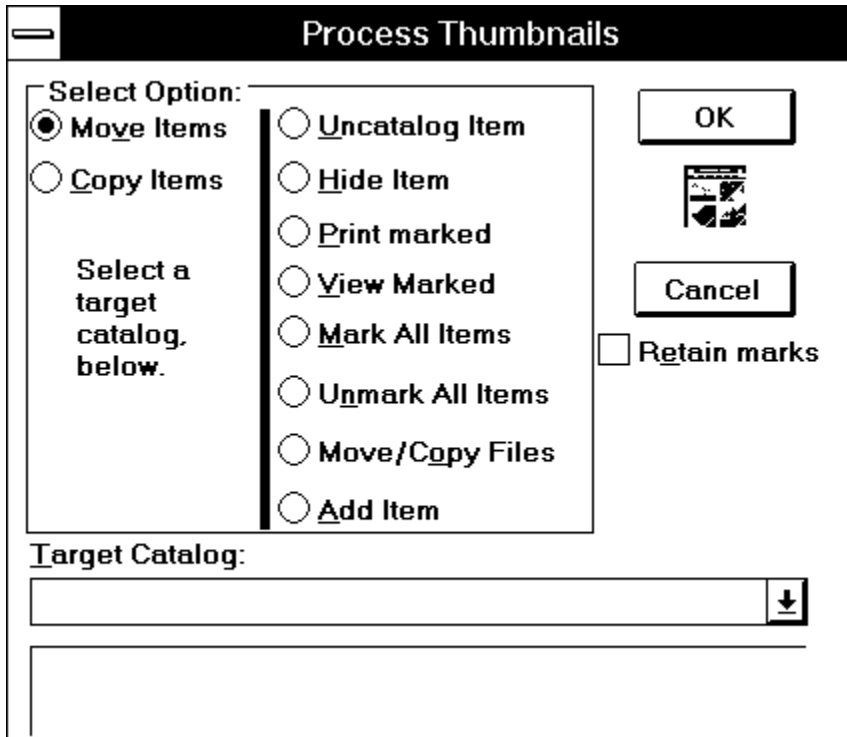


**Process Thumbnails dialog**

Note:
A target catalog need only be slected for the Move and Copy options; all other options operate on the currently selected catalog. For the move, copy and print options, a checkbox can be checked to cause PixFolio to avoid clearing the marks on the items. This is useful if you wish to perform multiple operations such as copy items to another directory, and also print the same entries.

Launch Application This command can be used to start up another application using the selected image. You will be prompted for the program path/name and for any additional parameters.

**Launch Application**

Enter the program that you wish to launch plus any parameters that are needed.

Program:

File:

152A.GIF

Parameters

[Browse] [OK] [Cancel]

PixFolio will append the file name and parameters together to the contents of the Program box to be used as the command line for starting up the application.

A default for "Program"can be established for a particular file type, e.g. "GIF"or "PCX", etc., by adding an entry to the PixFolio section of WIN.INI as follows:

xxx=[drive][path]{program},[parameters] (where "xxx" is the file type: GIF, PCX, BMP, etc).

Windows Notepad or SYSEDIT can be used to edit WIN.INI.

Slide Show This command will cause all of the marked slides in the current catalog to be displayed in full screen mode sequentially. Files to be displayed must exist on a non-removable drive.

Several options can be set that will determine the operation of the Slide Show. These options can be set via the **Catalog Slide Show Options** dialog:

1.      Delay between slides. This is the minimum amount of time that an image will be displayed. The image will be displayed an additional amount of time while the next image is loaded. The delay time is expressed in milliseconds; 10000 = 10 seconds.

2.      Number of animation passes. This value establishes how many times an animation sequence (FLIC or GIF89a) will repeat before going to the next slide.

3.      Display file name. If this checkbox is marked, the filename of the image being displayed will appear in the upper left-hand corner of the screen.

4.      Pause between. If this checkbox is marked, slides will not automatically advance from one to another. The right mouse button must be double-clicked

to proceed.

During a slide show, double clicking with the left mouse button will terminate the slide show.

**Editing Images**

PixFolio posesses a modest set of tools that allow images to be edited and manipulated. Using these tools it is possible to perform the following actions:

**Cropping or Trimming an Image**

In order to trim off excess portions of an image several techniques can be used.

1. Using the mouse, hold the left mouse button down at the point which is to become the upper left-hand corner of the resulting image. Then move the mouse to the opposite corner of the desired portion of the image. A rectangle, called a marquee, will be drawn on the screen. If the marquee drawn on the screen is not in the desired location, the operation to draw the marquee can be repeated until you are satisfied. When the marquee is stretched out to its desired extents, let up on the left mouse button. then select Edit Crop. The image will then be trimmed to contain only that area encompassed by the box.

2. If the image only needs to be trimmed on the right side and/or bottom, the window borders can be moved by using the mouse to drag the borders to the desired place and then the Edit Expand option can be selected to crop the image.


**Expanding an Image**

You may wish to expand the size of an image so that the borders are extended without otherwise changing the size of the image. There are several ways to do this.

1. If you only wish to add area to the right side and bottom, then simply drag the window borders out to the desired location and then select the Edit Expand option.

2. If you wish to add area evenly all around the image, first select the Options Center Image command.  Next, drag the window borders to make the window the desired size. The image will now be centered in the middle of the new window. Finally, select Edit Expand to expand the image. The area added to the window will be set to the currently defined background color. (See Option Background on how to set the background color.

3. To add area to an image but not necessarily evenly on all sides, first select the Options Center Image command.  Next, drag the window borders to make the window larger than the desired size. The image will now be centered in the middle of the new window. Now , using the mouse, enclose the area desired in the image with a rectangle and then finally select the Edit Crop command. As in the preceding example, the area added to the image will be painted the current background color.

**Resizing an Image**

In the preceding discussion on Cropping and expanding images, the image itself did not change size; However, the overall size of the window in which it is displayed was changed.  It is also possible to stretch or shrink an image. If desired, this can be done independently for each axis (left-right or top-bottom). This may be desirable to

achieve some artistic effect or to compensate for distortion caused by conversion from another graphics format.

One important point to keep in mind when resizing an image is that resizing is done by replicating or eliminating pixels. The best results then will be obtained when the shrink or stretch factor is some integer multiple of the original image such as times 2 or divided by 2, etc. Using a fractional factor will result in distortion of the image although this affect could vary depending upon the details of the image. It could be particularly noticeable if the image contains a repeated pattern.

There are two methods that can be used to resize an image.

1. Select the **Edit Resize** command and enter the desired dimensions. Note that the default dimensions that will be displayed will be those of the current window, so one way to resize is to stretch the window frame to the desired size before selecting **Edit Resize**. Resizing can be done independently on either the X or Y axis. The resizing factor can be specified either as a percentage or in terms of absolute pixel dimensions.

2. Using the mouse and the left mouse button, draw a marquee encompassing the area to be resized. Then in a similar fashion, draw a marquee to delineate the new dimensions of the selected region using the right mouse button. When you release the right mouse button, the image will be overlaid with the stretched or shrunk region. The resulting image can then be cropped as desired.

In order to stretch to dimensions larger than those of the current image, you should first expand the image so that there will be sufficient room for the stretched image.

**Rotating and Flipping an Image**

The suite of image editing tools of PixFolio is rounded out by several additional features. These are the ability to rotate an image in 90° increments and to be able to flip or mirror the image about its X(horizontal) or Y(vertical) axis. These features are available via the Edit Resize command.

**Size Window to Image**

Windows may alter the size of a window when the **Window Tile** or **Window Cascade** menu options are selected. To restore a window to the dimensions of the image, select the **Size Window to Image** selection from the **Window** menu.

**Clipboard Operations.**

All of the preceding editing commands primarily affect an entire image. Additional editing operations using the Windows Clipboard can be used to cut or copy all or part of an image to the Clipboard. The data in the clipboard can then be pasted to another application or the current application.  Likewise, other applications can copy data to the clipboard and it can then be pasted by PixFolio. See Edit Cut, Edit Copy Edit Paste commands.

PixFolio will copy both a DIB and device dependent bitmap to the clipboard. PixFolio

cna accept the same two formats from the Clipboard as well as a Windows Meta File format.

PixFolio will automatically convert an image's palette and color resolution so that, for example,  a 16 color image can be pasted onto a 256 color image without corrupting the colors. If the clipoard image being pasted has a different color resolution than than of the current image, you can select to either convert the current image to the higher resolution or dither the clipboard iamge to the lower resolution.

One possible action that could be performed using the clipboard would be to combine several images into one image. See Creating a new image in the next section.

**Palette Operations**

Each image that is displayed possesses a palette. This palette is a list of colors that are used to display the image. In most cases, the palette is limited to some particular value that is directly proportional to the color resolution of the image. This is generally 2, 16 or 256 colors. If your video display supports 24 bit color, the palette can contain more than 16 million colors.

The majority of video displays are capable of displaying only 256 colors or less at a time. Nevertheless, these 256 colors are not fixed but can be any one of 256,000 different colors. The purpose of the palette is to tell the video display which 256 of the possible 256,000 colors will be used.

The palette makes it possible for you to change the colors in the image. Two of the most common palette operations are adjusting the contrast and brightness of an image. By making all of the colors more intense, the brightness of the image can be adjusted. Likewise, by adjusting the darker colors unequally, the contrast of the image can be adjusted.

Many scanned images contain a wider range of color than can effectively be displayed by many video displays. If an image is too dark, brightening it or adjusting the contrast may bring out details that otherwise could not be seen. PixFolio can easily handle such adjustments utilizing the View Change Palette command.  A Complementary command is the View Gray Scale command which can be used to convert a color image to shades of gray.
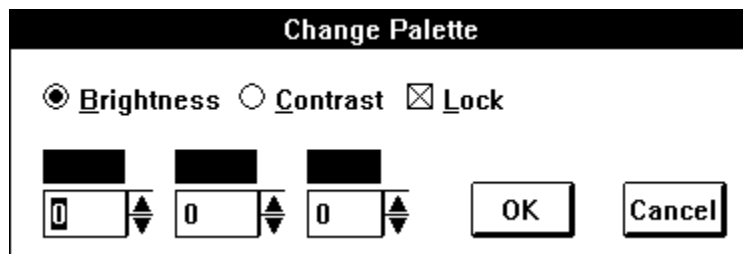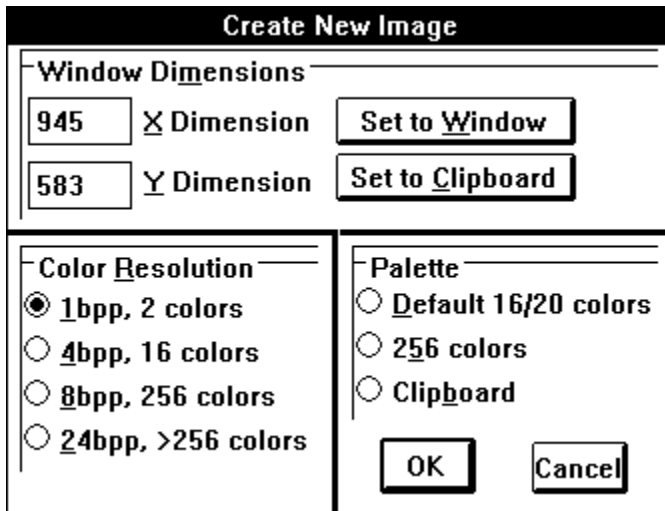


**View Change Palette dialog**

**Creating a New Image**

PixFolio provides for the creation of a completely new blank image which can then be edited. For example, you would like to combine several images into a composite image. The way to do this is:

1.Create a blank image of the desired size by utilizing the File New command:



    a.    The default dimensions shown in X Dimension and Y Dimension will be that of the window size before you select File New. If you know what size that you want the new image to be, you can manually enter the desired X and Y dimensions. The Set to Window and Set to Clipboard buttons will set or reset the X and Y values to that of the current window or Clipboard image (if any). Select Clipboard if you want the new image sized to be the same as the image in the clipboard.

    b.    The color resolution of the new image defaults to 1 bit per pixel. If you want more than two colors, select some other value. The value selected will be the maximum number of colors that the image can contain.

    c.    The Initial palette of the new image defaults to the Windows default palette. This palette will contain 16 colors unless you have a Super VGA or higher resolution video driver in which case it will contain 20 colors. You may also select a 256 color palette that contains a default set of colors. If there is a palette stored in the clipboard, you also can select it as the palette for the new image. It is recommended that you use the palette from the clipboard if it is available as this will eliminate the need to convert the image when an image in the clipboard is pasted to the new image.

2. You now may paste the contents the clipboard to the new image.

3. Switch to another instance of PixFolio or some other application to copy to the clipboard the remaining images that you want to combine.

4. Repeat steps 2 and 3 above as often as necessary and then select File Save to save the new composite image.

**Saving Images**

The user will need to save images displayed by PixFolio because, the user has edited or changed the image in some way and wishes to save the resulting images or, the user wishes to change the format or color resolution of the image, as stored on disk to some other graphics format than the image was originally stored as. All of these needs can be satisfied by the File Save command.

In contrast to the Move and/or Copy options , File Save creates a disk file from the currently displayed image as it is currently displayed Move and Copy on the other hand do not interpret the image data as stored on disk.

The format of a save image can be established in several ways. First, the extension provided for the output file can be used by PixFolio to determine the desired format. Secondly, the File Save dialog offers a number of selections of which graphics format to use.

**Format Conversions**

PixFolio can be used to change the format of an image form one format to another. This is useful when you have an image that you wish to input to another program that doesn't support that format. In this case, read the image into PixFolio and then save it to the desired format.

PixFolio images may be saved in the following formats:

**GIF87a**                         CompuServe Graphics Interchange Format.
**TIFF**   Tagged Image Format.
**PCX**   Windows paint.
**TGA**   Targa
**BMP**   Windows bitmap format.
**RLE**   Windows Run Length Encoded.
**IFF**    Amiga IFF. (Also Computer Eyes .CE)
**JPEG**  JFIF format JPEG compressed images.


**Color Resolution**

Normally, the user will not wish to change the color resolution of an image. In some cases however there may be good reasons for doing so. It is safe to say that the most efficient storage of an image takes place when the number of colors used in the image is less than the color resolution and is greater than the next lowest  color resolution value. Generally images are stored as 1 bit (2 colors), 4 bits (16 colors), 8 bits (256 colors) or 24 bit (16.8 million colors). Little is gained by reducing the color resolution of an image as this results in a loss of color information. Likewise, increasing the color resolution increases the storage space requirements while providing no additional color information.

The most rational exception to this is converting 24 bit images to 8 bit images. Unless you have a 24 bit video display, there is little need to retain the extensive color information contained in 24 bit images unless the end use, such as for

commercial printing applications, requires it. The display of 24 bit images on the usual VGA or SVGA or even 8514 video display is very time consuming. For that reason, you may want to convert a 24 bit color image to 8 bits to facilitate viewing it at a later time. PixFolio can easily handle this conversion in File Save.

Sometimes images are written in 256 color format but only contain 16 colors or less. In this case, the disk space taken up by the image could be substantially reduced by reducing the color resolution to 16 colors (4 bits).

**Dithering**

Another option that can be utilized to convert, for example, a 24 bit image to 8 bits, is the **Palette Dither** command. While dithering can take a considerable length of time, the results can be quite good. Dithering initiated by the Palette Dither command as opposed to the **Auto Dither** option permanently changes the color resolution of the file. The **Auto Dither** option on the other hand only dithers the image for display on a device that does not have the capability of displaying all of the colors in the image.

The degree of dithering is controlled by which palette that is selected:

1.  Black and white. The dithered image will only contain 2 colors. This may be desirable in preparation for printing since many printers, except for color printers, can only print black or white and don't know what to do with shades of gray. (Note that most of the print drivers distributed with Windows 3.1 do a good job of printing color images as halftones and do not require that the image be dithered to black and white first.)

2.  Color (use current palette). This option is available when a 24 bit image is displayed. This will most likely be a 256 color palette.

3.  16 Color palette. This palette is good for displaying images on a 16 color video display and if you wish to save the image with 4 bits per pixel color resolution.

4.  20 color stock palette. Use this palette to display images with the Windows standard 20 color palette and with video drivers such as the standard VGA driver.

5.  256 color Palette. This palette has an even distribution of all colors. This palette may be used to provide a common palette for cutting and pasting several images that have different palettes.

6.  Clipboard palette. You may use the palette of another image by copying it to the clipbard. This also copies the image's palette to the clipboard. A palette from the clipboard may be used to provide a common palette for cutting and pasting several images that do not have the same palette.
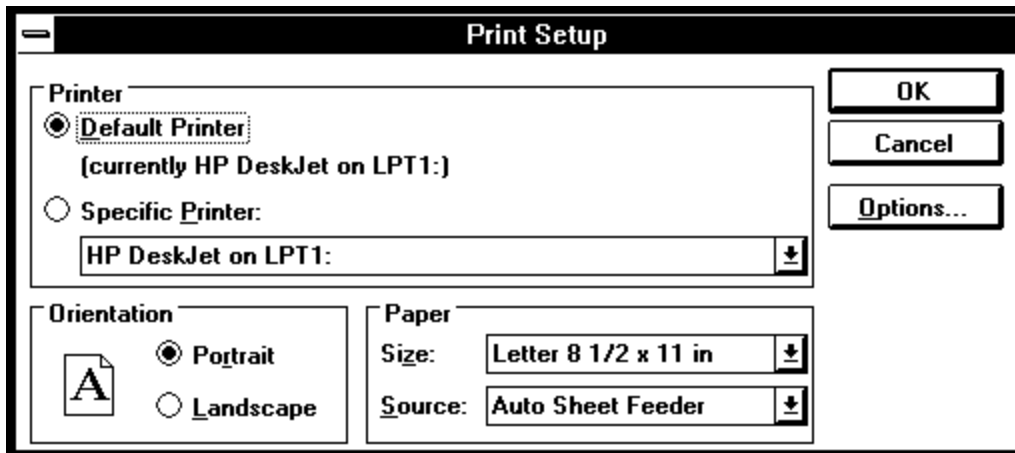
**File Select Printer Dialog**

**Printing Catalog Entries**
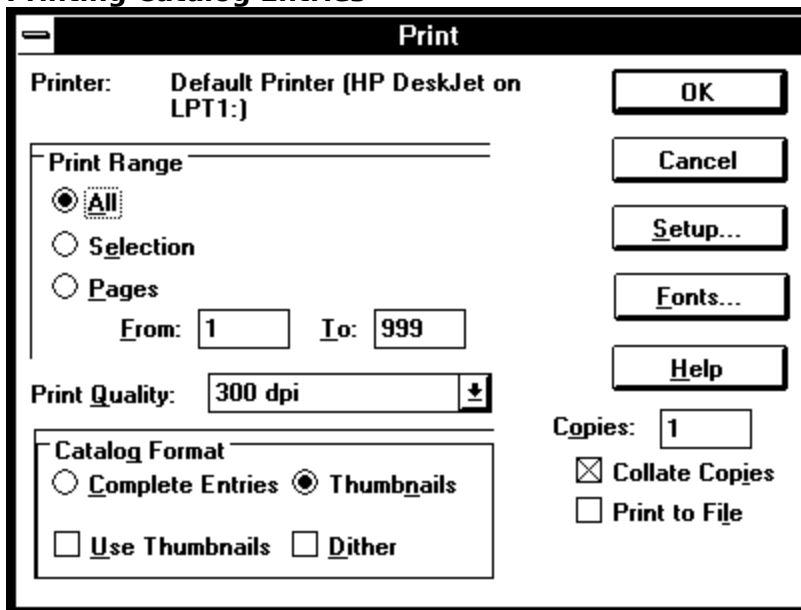


The **Use Thumbnails** option, if turned on, forces PixFolio to utilize the Thumbnail image that is part of the catalog entry. Otherwise, the image will be read from disk prior to printing. If this option is turned off, it will result in far superior picture resolution at the expense of the time necessary to read the images in. It also may be less convenient as you may have to repeatedly swap disks to read images that do not reside on your hard disk.

The **Dither** option should be turned on if the printer cannot print color or convert to grayscale. In that case, PixFolio will perform the necessary dithering. This option affects both printing of whole images as well as catalog entries.

The above options are saved in the WIN.INI file, by printer, so that when a new

printer is selected, its options will be established automatically.

The **Complete Entries and Thumbnails** radio buttons allow the selection of an alternate "dense" print format when printing a catalog. When thet **Thumbnails** format is selected, only the thumbnails and their file name will be printed. On 8 1/2" x 11"paper, yous hould be able to print 20 thumbnails per page.

Pressing the **Fonts** button allows you to select a typeface and size of type for the catalog print functions. Separate font information can be established for each printer and will be used the next time that the printer is selected.
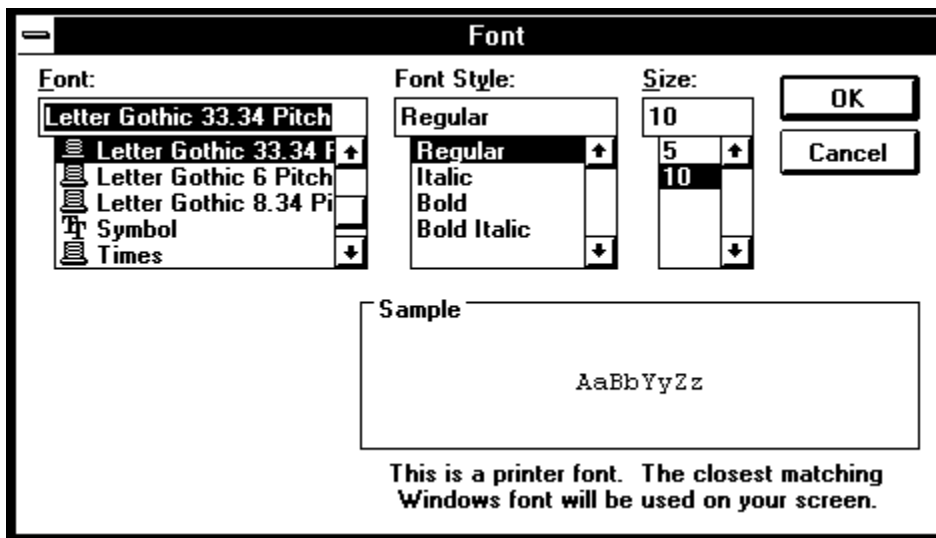


Please note that selecting a Font Style other than "Regular" will not result in that style being used. PixFolio itself determines whether to print portions of the catalog prinout in bold or underlined text.

**Printing Images**

An image or a selected portion of it may be printed via the File Print command. To print just a portion of an image, use the mouse to draw a marquee around the portion you wish to print. Then select the File Print option.

The **Options Options** dialog allows you to scale the picture to the desired size. To aid in selecting the correct size, the size of the image can be expressed as a percentage of the original or in pixels. Also,the resulting size in inches or centimeters is displayed. PixFolio assumes that the image is comprised of square pixels and automatically scales the image accordingly if the printer horizontal and vertical resolutions are not the same to avoid distortion.

**Printing Catalog Entries**

There are three ways to print a catalog entry:

1. Select Print Catalog from the Catalog Browse dialog. Only one entry, the currently selected item can be printed at a time.

2. Select the Catalog Print command from the Catalog Menu. This will print all of the selected entries in the current catalog. The Catalog Browse - search commands can be used prior to this to narrow the scope of the request to those catalog entries meeting requested criteria. Up to 4 catalog items will be printed per page.

3. Select the Print option from the Process Thumbnails menu command from the pop-up menu in Thumbnail View. This command will print only "marked" entries. It is the best way of printing specific items to print. Up to 4 items will be printed per page.

Note: There are two catalog print formats supported by PixFolio. The default format will allow 2 to 4 entries to be printed per page. This format will print all keywords, the title, description and path information for the entry.  The Alternate print format will print about 20 thumbnails per page. This option can be selected via the File - Select Printer function.

Prior to selecting any of the above options, a printer should be selected and the desired typeface and size should be selected.

**Object Embedding and Linking**

Many Windows 3.1 applications support Microsoft's **Object Embeding and Linking (OLE)** protocol as a server, client or both. PixFolio is an OLE server application and can supply images to an OLE Client application such as Windows Write or Word For Windows 2.0. To determine whether an application is an OLE client, look to see whether any of the following menu entries are present in your application's **Edit** menu:
**Paste Special, Paste Link, Links, Object or Insert Object.**

If your application is an OLE client, it can import images from PixFolio using OLE. An image in PixFolio can be included in your application by using a Link (via the Paste Link command) or embedding the image using the Insert Object command.

**Links**

In order to link to a PixFolio image, PixFolio must be started and the image viewed as you normally would. Then copy the image to the clipboard and then in your application, select **Paste Link**. The image will then be inserted into your application. Your application will maintain a link to Pixfolio so that if the image is changed, it will be automatically updated in your application.

**Embedding**

Selecting the **Insert Object** command on your application's Edit menu  and then selecting **PixFolio Image** will automatically start PixFolio, if it is not already running, start a Thumbnail view and then you can double click with the left mouse button on the desired Thumbnail to view the image, then select **Update** from the File menu to insert the image into your application. Subsequently, you can double click on the embedded image in your application to start Pixfolio to edit the image.

Refer to your application's documentation for more specific information as to how OLE is implemented.

**Run-time Options**

PixFolio offers several options that can be used to alter the operation of PixFolio to suit the user.

**Options Menu**

**Auto Dither**

If your display driver is not capable of displaying 256 colors, for example the standard VGA driver can only display 16 colors, you may turn **AUTO DITHER** on to cause images that contain more than 16 colors to be automatically dithered *for display only.* The original image data containing 256 colors is not modified and if the file is saved, none of the colors will be lost.

If you wish to dither an image and save it as a dithered image you must select one of the **Palette Dither** options to dither the image even if it has been displayed as dithered because of Auto Dither being turned on.

Dithering is slow so you may wish to keep this option turned off until you specifically wish to view an image dithered. If you have a 256 color dirver, the Auto Dither option will cause 24 bit color images to be dithered but you should be warned that this may take a very long time, perhaps as much as an hour.

**Background Color**

When the size of an image is increased, the additional area of the image will be painted to the background color that is set by the Set Background Color. The background color is also used to paint the surface of an image created with the File New command.

A dialog box is presented which enables the user to set the background color to whichever color is desired An option (ColorSolid ) in this dialog box determines whether backgrounds will be painted with solid colors or dithered colors. The dithering option may give a wider apparent range of colors particularly if the palette is limited to say 16 colors by the video display.
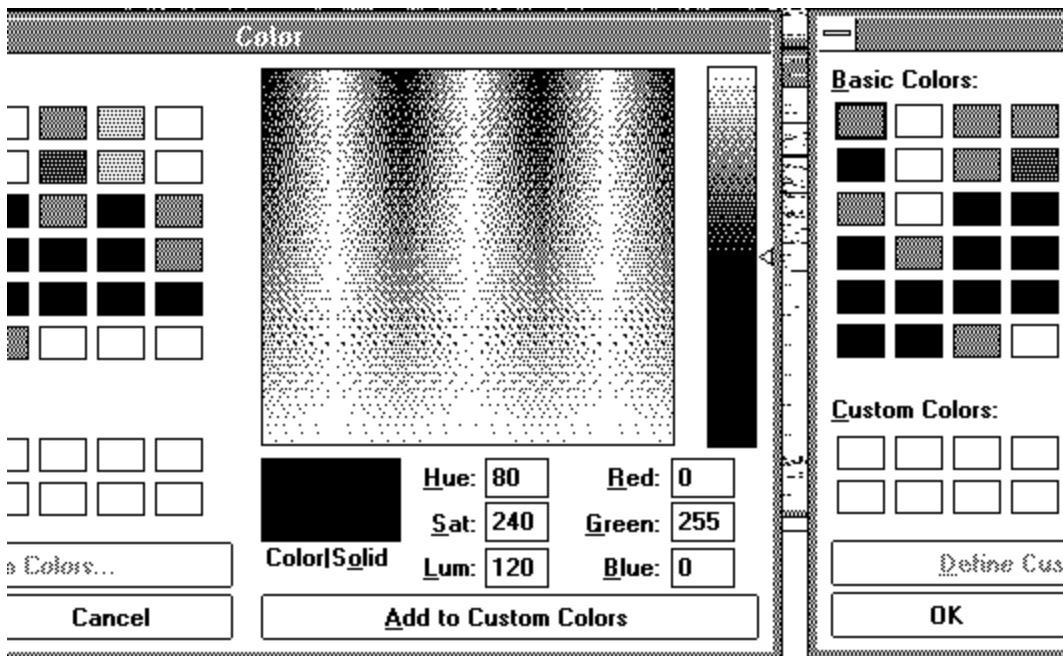
You can define custom colors which will be saved for the next execution of PixFolio.

**DIB to Screen**

PixFolio normally will attempt to maintain both a device independent bitmap (DIB) and a device dependent bitmap (DDB) for any image being displayed. Display of DIBs is slower, especially when it is a 24 bit color images. However, initial creation of the DDB can also be time consuming. For this reason, it is best to allow PixFolio to create a DDB. However, in situations where memory is low, there may not be enough memory to create a DDB. By selecting the DIB to Screen option, the user will forgo creation of a DDB and the DIB will be displayed directly to the screen.

**Display Warnings**

In some cases, it is necessary for PixFolio to issue warning messages to the user. These messages, once the user becomes familiar with PixFolio may be more of an irritation than a help. Therefore, the user can suppress all but the most serious errors and warnings by selecting this option.

**Center Image**

If a window is expanded or a full screen view is selected, the image being displayed will be located in the upper left-hand corner of the window. Selecting the Center Image option will cause all images that are smaller than the size of the current window to be centered both vertically and horizontally in that window.

**Fix Tiff**

This option allows a certain amount of relaxation of the TIFF standard for certain types of TIFF files that do not have the correct values for the Strip Byte Counts tag.

**Play Step Rate**

PixFolio can display GIF animation sequences from GIF87a files. However, since the GIF file is not being decoded real-time, which in many cases is used to "pace" the display, an option is provided to the user to set the time delay between successive frames of the animation.

**Verify Catalog**

If it is suspected that the catalog index has been corrupted, turning this option on temporarily will force the catalog index entries to be verified with the matching catalog record. Invalid indexes will then be removed.

**Default Options**



**Default Options Dialog**

Default options can be specified which go into affect whenever PixFolio is started. Some of these options are:

**Initial Catalog**

This option specifies which catalog will be selected initially.

**Default Extensions**

This option specifies the file extensions of all files that should be displayed on a file selection list. The value of this option is used in turn as a default for establishing a similar option whenever a new catalog is created.

**Default Path**

If this option is utilized, it will specify the current path that will be displayed whenever the file open dialog is accessed. Otherwise, the path of the default catalog will be used.

**Display Center**

Whether images should be displayed centered or not.

**DIB to Screen**

Turns on the DIB to screen option. When this option is on, PixFolio will not attempt to create a Device Dependent bitmap for display but will instead paint directly to the screen. This may be helpful if memory is limited and there is not enough memory to create a separate Device Dependent bitmap.

**Background type**

Whether backgrounds should be solid or dithered.

**Fix Tiff**

Should the special rules for TIFF files be put into effect.

**Display Warnings**

Should warning messages be suppressed.

**Auto Dither**

Determines whether images will be automatically dithered if their color resolution is greater than that of the display.

**Disable xxx**

Several image formats supported by PixFolio are also supported by Graphics Import FIlters shipped with WINWORD and Aldus Pagemaker. If you want to use these filters instead of the built in support for these formats, you can disable the PixFolio read routine. In this case, PixFolio will utilize the graphics filters defined in WIN.INI in the section: [MS Graphics Import Filters]. An example is reproduced below:

```
[MS Graphic Import Filters]
Windows Metafile(.WMF)=D:\WINDOWS\MSAPPS\GRPHFLT\wmfimp.flt,WMF
DrawPerfect(.WPG)=D:\WINDOWS\MSAPPS\grphflt\wpgimp.flt,WPG
Micrografx Designer/Draw(.DRW)=D:\WINDOWS\MSAPPS\grphflt\drwimp.flt,DRW
AutoCAD Format 2-D(.DXF)=D:\WINDOWS\MSAPPS\grphflt\dxfimp.flt,DXF
HP Graphic Language(.HGL)=D:\WINDOWS\MSAPPS\grphflt\hpglimp.flt,HGL
HP Graphic Language(.PGL)=D:\WINDOWS\MSAPPS\grphflt\hpglimp.flt,PGL
Computer Graphics Metafile(.CGM)=D:\WINDOWS\MSAPPS\grphflt\.cgmimp.flt,CGM
Encapsulated Postscript(.EPS)=D:\WINDOWS\MSAPPS\grphflt\epsimp.flt,EPS
Tagged Image Format(.TIF)=D:\WINDOWS\MSAPPS\grphflt\tiffimp.flt,TIF
PC Paintbrush(.PCX)=D:\WINDOWS\MSAPPS\grphflt\pcximp.flt,PCX
Lotus 1-2-3 Graphics(.PIC)=D:\WINDOWS\MSAPPS\grphflt\lotusimp.flt,PIC
AutoCAD Plot File(.PLT)=D:\WINDOWS\MSAPPS\grphflt\adimport.flt,PLT
Excel Chart(.XLC)=d:\aldus\usenglsh\filters\CHARTIMP.FLT,XLC
```

Note: in the example above, "HP Graphic Language" is listed twice because there are two file extensions in use for these files. You may have to edit WIN.INI to do this. However, the WIN.INI section should be automatically established whenever you install an application like WINWORD that includes the filters.

All of these options can be set via the **Options Default Options** command.

**Removable Media**

PixFolio normally considers fixed media such as hard drives and network drives as primary storage media and "removable" drives such as floppy disks as "backup" locations. In some cases, for example when using a Bernoulli box, which DOS considers as "removeable", you may wish to change the way that PixFolio treats such drives.

If you wish to consider a particular drive as a primary storage location, with Notepad or some other text editor, add the following option to the [PixFolio] section of your WIN.INI file:

Primary Drives=x,... where "x" is the drive letter of the drive to be considered "fixed". More than one drive can be thus overridden; you do not need a comma after the last drive.

If you wish PixFolio to treat a drive as "removable", for example, if you want to store backup copies on a network drive, add the following option to your WIN.INI file:

Backup drives=j,... As in the above case, you do not need the comma after the last drive letter.

Example:

Bernoulli Drives E and F are to be considered as primary storage even though DOS says they are removable. Network drives J and K are to be considered "backup" drives.

**Primary Drives=E,F**
**Backup Drives=J,K**

The Catalog Select Catalog command provides for specification of a volume ID for a catalog. If present, the volume ID will be checked before opening the catalog.

**Profile Options**

PixFolio will normally keep its configuration options following a [PixFolio] header in your WIN.INI file. In some cases, this may not be desirable; for example in a network enviroment where several different users are using PixFolio. As an option, PixFolio may be configured to keep its options in an alternative location. If a file named "PIXFOLIO.INI" exists in the subdirectory that PixFolio is loaded from or in some directory in the PATH, PixFolio will maintain its options there and ignore WIN.INI. In this case, references to WIN.INI mentioned in this documentation will actually refer to PIXFOLIO.INI.