ThumbsPlus Release Notes 3.0b ~ 3.0e

<u>Compacting ThumbsPlus Databases</u>

Shareware Enhancements 3.0e

The following functions, previously available only in the registered version, are now available in the shareware as well:

- Linear, statistical and morphological digital image filters. Most filters operate either on intensity or all channels; some can be applied to specific color channels as well. The filters include:

  Sharpening (sharpen, sharpen less, sharpen more, directional sharpen, unsharp mask),

  Blurring (blur, blur more, average, Gaussian 7x7, Bartlett 7x7),

  Edge detection (strong, weak, Laplacian, Laplacian inverted, Prewitt, Sobel, morphological gradient),

  Noise removal (despeckle light, despeckle dark, maximum, minimum, median, add noise),

  Special effects (emboss dark, emboss light, etch, outline dark, outline light).

  You can also define your own linear filters, up to 7 x 7.

- Image histograms, including histogram equalization.
- Both the filters and image histograms operate on single images, or on multiple images (batch mode).

File Support Improvements   3.0e

CGM support is improved:
- Extent defaults now match the ANSI specification.
- A default color map is now provided.
- Polymarkers are now rendered.
- Text support has improved.

ThumbsPlus now supports WPG files which have transformed and rotated groups and complex polygons.

FIF and DXF files which previous caused ThumbsPlus to crash now result in an error report instead.

ATM font support improvements, including support for Multiple Master fonts and instances (.PSS)

Bi-level TIFF files may now be saved with Packbits compression. Version 3.0d would save them as CCITT group 4 instead.

Problems Fixed   3.0e

- Volume name matching (for finding thumbnails for disks) has been relaxed to help problems with removable (some Zip volumes), network, and disks shared between operating systems.
- Several problems in ThumbsPlus and Windows have been worked-around so that thumbnails don't appear to need updating when they are current (spurious red dots). This included problems with Windows time reporting and the TZ environment variable.
- Adding and removing fonts on NT 4.0 now properly updates the registry so that the fonts are available after system restart.
- In the view window, **Zoom In** can now operate to 16x (except on Windows 3.1).
- Installation now adds the "Add/Remove Program" registry entry regardless of whether the program is added to the Start menu.
- The filename is changed correctly in a view window after renaming.
- Grayed folders are shown for "orphaned" directories if **Show Orphaned Thumbnails** is set from **Options | Preferences | General**.
- The keystrokes for some menu items were corrected.
- Creating a database with thumbnails of odd widths (actually, not divisible by 4) no longer causes strange problems or crashes.

File Support Improvements   3.0d

TIFF formats are now supported:
- RGB TIFF files with invalid strip sizes (i.e., Micrografx Picture Publisher)
- 4-plane 1-bit files, with or without color maps
- Grayscale TIFF files are no longer written with a color map

BMP formats are now supported:
- 16 bits per pixel formats, with or without bit field masks
- 32 bits per pixel formats, with or without bit field masks

GIF file improvements:
- When set to load as "Images Only" (Options | File Loading • GIF), each image is loaded as a separate image page.
- An option was added (Options | Save As | GIF) to minimize the size of saved GIF files. This option sets the color depth to the minimum number of bits required to represent the image, sometimes resulting in a somewhat smaller file size.
- GIF animations and multi-image files are now supported on Windows 3.1/Win32s.

PFB files : Files with an internal format different from Adobe's now work properly.

TTF files: Files with a full name longer than 32 characters are now supported.

ZIP file support improvements :
- Encrypted ZIP files can now be read.
- ZIP files can be deleted from the directory list.
- ZIP error messages are now shown in the "Errors Encountered" area of the progress box.

View Window Functions   3.0d

Wallpapering functions (**View | Wallpaper | Center**, etc.) were added to the view window, allowing you to wallpaper with the current image.

File | Next File and File | Previous File now adjust the currently selected file in the main window if only a single file is selected. If multiple files are selected, the functions advance through only the selected files.

A View All Selected option was added to Options | Preferences • General to control whether all or only the first file is viewed when multiple are selected. (Previous versions displayed all; now the default is to only show the first).

Edit | Thumbnail and Edit | Copy will now operate on the entire image if nothing is selected.

Miscellaneous New Features   3.0d

Picture | Stretch Wallpaper was added (functional only on Windows 95 / NT 4.0).

Control wallpaper file location. You can control the location of the file used for wallpapering. (By default, ThumbsPlus places the file ~WALLPAP.BMP in the current TEMP directory). To change this behavior, add an entry to the THUMBS.INI file as follows:

```
[Wallpaper]
Filename=C:\TEMP\Wallpaper.bmp
```

Windows NT 4.0 support for:
• Recycle bin
• New format for database Save As dialog box
• System menu icons
• Wallpapering
• Font installation / removal

Network drives are no longer scanned on startup, but treated more like removable disks. This generally improves startup times, and eliminates long delays when a network drive is no longer available.

Thumbnail image cache. This can improve display performance, especially on systems with slow CPUs or non-accelerated video adapters. The size of the cache is selected in Options | Preferences • Advanced.

Picture | Properties • Physical now shows the file attributes (hidden, system, read-only, etc.), and shows the complete file name.

Access to keywords is much faster than before (5x to 10x) when large numbers of keywords have been defined. This improves performance for Picture | Assign Keyword, Picture | Find and Options | Database | Edit Keywords.

Problems Fixed   3.0d

- Several problems displaying GIF files, especially on 8-bit displays, were corrected.
- Reduce to Fit (Options | Preferences • Slide Show) now works properly in the slide show.
- Several missing help links were corrected.
- Several view window shortcut keys that did not work (F9, Delete) were corrected.
- Space now advances a slide show.
- When batch editing using an 8-bit median cut quantization, ThumbsPlus would ask for each image whether you wanted to proceed. Now, in batch mode, no warning is issued.
- Multi-palette GIF files were displayed and thumbnailed incorrectly when using an 8-bit (256 color) display driver.
- Saving the start-up directory on a removable or network drive now works properly.
- Network installations did not properly locate the THUMBS.FLT file, so filters were not available.
- Network installations did not install DECO_32.DLL.
- Picture | Annotate now functions properly.
- Repairing the database would, under some conditions, not repair the volume records, resulting in no thumbnails displayed.
- Dithering to a grayscale palette produces better results.
- Cinepak and Indeo palettes are now loaded correctly when selected directly from the palette list in Image | Color Depth.
- The number of colors (Image | Count Unique Colors) was sometimes incorrect for 4 bits per pixel images.
- Directory color codes for ZIP files are now updated properly when thumbnails are made.
- More accurate error messages are provided for resource low conditions.
- The Slide Show would sometimes cause faults when run from an off-line volume.
- File | Delete Directory now uses the recycle bin, if enabled from Options | Preferences • General.

Miscellaneous New Features   3.0c

Slide show MIDI background music. You can play a MIDI file in the background while viewing a slide show. Just name the file SLIDE.MID and place it in the directory with the images.

WAV files may be associated with files in the slide show. Any WAV file with the same name as the image will be played when that image is displayed. For example, for IMAGE.BMP, the corresponding WAV file would be IMAGE.WAV.

A "Yes if same" button was added to the <u>Replace Confirmation</u> dialog, so that only identical files are overwritten when moving.

An option for displaying thumbnails at 75% size was added. This option is available on the <u>Options | Thumbnail Size</u> menu, or in the <u>Options | Preferences • File List</u> dialog box.

Additional buttons (filter, comment) are available for the view window toolbar. You can add these buttons to the toolbar using <u>View | Customize Toolbar</u>.

Reduce to fit option for view window and slide show. You may now select "Reduce to fit" as the initial size option for the <u>view window</u> and <u>slide show</u>. This option causes ThumbsPlus to enable stretching of an image *only if* it is larger than the displayable area in the window (or screen).

View window status line improvements. The palette index now displays with the RGB value in the view window status line for pixels in color-mapped images, and **Fit** and **Wid** show in the zoom box when <u>Stretch to Fit Window</u> or <u>Stretch to Fit Width</u> are enabled.

File names may be left-justified. There is now an option in <u>Options | Preferences • File List</u> to left-justify, rather than center, file names in the file list.

The <u>Help</u> file has been updated.

New File Types Supported   3.0c

Support for several file types has been added in version 3.0c. Each has an entry in the on-line help file describing its capabilities.

SBIG (Santa Barbara Instruments Group astronomical images) support (read)

FIF (Iterated Systems) support (read)

KIZ (Kodak Postcard) support (read image only)

DCX (Multi-page PCX files) (read)

Note: KDC (Kodak Digital Camera) support has been delayed because the 32-bit library is not yet available from Kodak.

File Support Improvements   3.0c

- L*a*b color space is supported in <u>PSD</u> and <u>TIFF</u> files.
- <u>PSD</u> files with multiple extra channels are supported (the extra channels are ignored)/
- <u>GIF</u> files may be loaded in several ways (<u>Options | File Loading • GIF</u>), including animated display support (***Win 95/NT only***).
- You can select the transparent color directly from the preview image in the <u>GIF Save Options</u> dialog box, rather than having to use the drop-down color palette.
- A user interface is now available (<u>Options | File Loading • RAW</u>) for configuring <u>RAW</u> file types

Multi-page File (DCX, TIFF) Support   3.0c

TIFF and DCX files containing multiple images may now be accessed from ThumbsPlus. The title bar shows the current page and number of pages in the file, and there are several menu options and toolbar buttons available for use with multi-page files:

Edit | Next Page - Advances to the next sequential image in the file.

Edit | Previous Page - Backs up to the prior image.

Edit | Go to Page - Allows you to jump to a specific image.

Edit | Split Pages - Splits the images into individual files.

View Window File Functions   3.0c

Now you can perform some file functions directly from the view window. Some users have requested these features be incorporated into the slide show; however, I think having them available from a regular view window allows more flexibility and does not limit Cerious Software's options for future slide show enhancements.

Essentially, when you've opened a view window, you can advance through the current directory of files using the SPACE key, or backwards using the BACKSPACE key. To reduce confusion, ThumbsPlus will not advance past the last file in the current file list, or backwards beyond the first; in other words, the next/previous functions do not wrap around.

The current file list (in the main ThumbsPlus window) is used to perform the file changes. Note that if you change directories or re-order the file list, "Next file" and "Previous file" will return a file at the position in the *new* display. Additionally, files added by other programs may change the file list.

The following functions are available:

File | Next file   SPACE

File | Previous file   BACKSPACE

File | Copy file   F5

File | Move file   Shift+F5

File | Rename file   Ctrl+Shift+F5

File | Delete file   DELETE

Problems fixed   3.0c

- *Windows 3.1*: Using some video drivers with some versions of Win32s, the standard window bitmaps (system menu, minimize, maximize, scroll buttons) would be replaced when you ran ThumbsPlus. (*Win32s bug*)
- *Windows 3.1*: Catalogs would not print correctly. (*Win32s bug*)
- *Windows 3.1*: 24-bit bitmaps would not display correctly on some 8-bit video displays.
- Keyboard accelerator, tab and the close [x] button did not work in Keyword Find dialog.
- Canceling the save of a modified image (after "save changes" prompt) would close the window.
- MOV files did not work.
- AVI, MOV and MPEG files were not properly sized and positioned, and did not work properly in a slide show.
- The toolbars would become garbled when buttons were removed (Options | Customize Toolbar).
- The stretch-to-window, stretch-to-fit and full-screen toolbar buttons were inoperative in a view window.
- Thumbnail | Remove Tree did not remove all thumbnails.
- 16 and 24-bit raw files were not recognized even when described correctly in the THUMBS.INI file.
- .UUE files cause a GPF or IPF when thumbnailing if associated with another application.
- Some old-style BMP files were not handled.
- Help shortcuts (both by F1 and the [Help] button) did not work from many dialog boxes.
- The Confirm File Replace dialog would cause a GPF if canceled (via [x] or ESC).
- Changing only the case of a keyword (i.e., JPG to jpg) would remove the keyword.
- Using CTRL+SHIFT+P to save the current window position did not work.
- Using the keyboard (CTRL+SHIFT+Z) to reload a JPEG image caused it to be loaded 1/2 size.
- If the "working" or "starting" directory was other than the installation directory, ThumbsPlus could not locate the help file.
- The current monitor gamma setting was not read at program startup.
- The Options | File Loading property sheet did not remember the last tab selected.
- Selecting APPLY in Options | File Loading • PhotoCD would close the dialog.
- Trying to 'save as' a 24-bit bitmap after last saving a GIF file no longer results in an error.
- Finding by keyword no longer shows deleted thumbnails ("Thumbnail not available" with an empty file name).
- Startup via a UNC (network) name caused the directory list to display incorrectly.
- Removing all thumbnails from the last removable volume would mess up the directory list.
- Some invalid JPEG files which earlier (2.x) versions could read were not handled in 3.0.
- Rewriting thumbnails no longer erases the database annotation for the file.
- TIFF library warnings are no longer shown in the progress dialog.

Miscellaneous New Features   3.0b

MIDI music support. ThumbsPlus can now play MIDI (.MID) files.

The full file name displays on the context menu. Right-click a file to see its full name at the top of the context menu.

Video playback (AVI, MOV, MPG) configuration. ThumbsPlus provides a "configure" button on the Video Controls to access the appropriate MCI driver configuration dialog box.

ThumbsPlus shows files that have changed since they were last thumbnailed. This feature (a red dot in the upper right-hand corner of the thumbnail) was in 3.0a, but was not documented.

Improved Cancel response when processing files. Versions 3.0 and 3.0a would sometimes take quite a while to cancel a multiple-file process.

Improved file list display. ThumbsPlus shows the file list faster, and with less unnecessary refreshing

Uppercase directory names are shown in mixed-case as in Explorer.

When renaming a file, ThumbsPlus now shows the existing file name as the default.

Remembers the last "Save As" file type. ThumbsPlus remembers the last "Save As" file type and uses it the next time you select Save As.

Scanned and pasted images now receive unique names. For example, Clip0001, Scan0001 rather than "scanned.bmp".

You can skip the GIF, TIFF or JPEG Save Options. Pressing SHIFT while OK'ing (by mouse or ENTER) the *Save As* dialog will skip the GIF, JPEG or TIFF Options dialog and use the current defaults

The default background for contact sheets is a more pleasing color.

Additional raw types supported. (Including 16-bit grayscale, 24-bit RGB or BGR, 32-bit RGB or BGR). And, you can specify unprocessed head and tail sizes. This allows many medical images to be imported (i.e., Nanoscope). See page 4 for details on setting up raw formats.

Raw Grayscale and RGB Enhancements   3.0b

Note: Version 3.0c incorporates a much more user-friendly interface for specifying raw RGB or grayscale formats. This section remains to give some overview of the structure of the [Raw] section of THUMBS.INI.

The INI file format for specifying standard raw file dimensions and characteristics has changed in this release. This allows many more raw formats to be loaded by ThumbsPlus, and even some uncompressed formats that aren't truly "raw."

In order to be able to process raw files in batch mode, and to automatically make thumbnails for them, ThumbsPlus recognizes raw files by the file extension and file size. Most often, raw files have standard dimensions and characteristics which result in specific file sizes. You enter the dimensions in the THUMBS.INI file and use Options | Preferences • File Types to specify the file extensions.

All entries for raw types go in the [Raw] section of THUMBS.INI. The general format for an entry is shown below:

<width>x<height>{*2}-<format>-<bits per pixel>-<bytes to skip at beginning>-<bytes to skip at end>

Width	The width (in pixels) of the image
Height	The height (in pixels) of the image
*2	Specified to replicate scan lines
Format	G Grayscale (low-high for 16-bit samples)
	M Motorola-format grayscale (high-low for 16-bit samples)
	R RGB (8-bit samples)
	B BGR (8-bit samples)
Bits per pixel	The number of pits per pixel (8, 16, 24 or 32).
Bytes to skip at beginning	The number of header bytes to skip at the beginning of the file
Bytes to skip at end	The number of bytes to ignore at the end of the file

For example, a 512x512 16-bit grayscale Nanoscope image with 8192 bytes of header information would appear as:

```
512x512-G-16-8192-0
```

Often, scientific and medical raw images have (even more) raw data after the image information. For example, some of the Nanoscope images I have examined include another 512x512x16-bit array of unprocessed data at the end of the file. In this case, the entry would be:

```
512x512-G-16-8192-524288
```

Some ocular imaging systems produce raw grayscale files in which only half the scan lines are represented in the file. You can tell ThumbsPlus to replicate each scan line as follows:

```
1024x512*2-G-8-0-0
```

(The displayed image is 1024x1024)

Raw 24-bit RGB (8 bits per sample) images of 640x480 would be represented as:

```
640x480-R-24-0-0
```

An example [Raw] section, encompassing all of these examples, would then be:

```
[Raw]
512x512-G-16-8192-0
512x512-G-16-8192-524288
1024x512*2-G-8-0-0
640x480-R-24-0-0
```

Database Changes 3.0b

So that we could correct problems with volume matching, duplicate labels, and duplicate serial numbers, a small change was required to the database format in version 3.0b; the format for storing *Volume* information changed slightly. For the most part, this change will be transparent: ThumbsPlus converts the Volume records the first time 3.0b or 3.0c opens an earlier (3.0 or 3.0a) database. However, if there are problems, you may need to be aware that:

1. Although version 3.0a can still open the database after it is converted by 3.0b, it will use the older volume information. After a database is converted to 3.0b format, thumbnails made by 3.0a to new volumes will not be visible to 3.0b (and vice versa).

2. If a database is compacted (using the ThumbsPlus Database Utilities, *TDButil*), the older volume information will be removed. You'll no longer be able to open the database with 3.0a.

3. The conversion of the Volume records is very fast; except in the case of hundreds or thousands of volumes, it should complete within a second or two.

4. The first time you open a 3.0 database with 3.0b, you'll need to be sure that you have write access and exclusive access to the database. It should not be open on any other systems, or by ThumbsPlus version 3.0a.

Because of these issues, we recommend that you do not use 3.0a after installing 3.0b, and that you update all network clients to 3.0b. For network installations, be sure to run 3.0b on a client that can write to the database before running it on systems that are set up only to read it.

Windows 3.1/Win32s   3.0b

- Edit | Select All didn't work.
- Main Toolbar was not updating correctly.
- Window adornment bitmaps (system menu, minimize, maximize, scroll bars) were lost when resources ran low (due to cursor leak during ZIP file processing).
- Contact sheets reported "out of memory."
- Catalog printing did not work.
- Color cursors were ignored (rather than converted to monochrome cursors) by some display drivers.

Faults (GP, IP, Stack)   3.0b

- Stack faults, hangs, GPFs while scanning some ZIP files, especially those with stored path information.
- GPFs when scanning to make thumbnails.
- Searching for import filters caused a GPF.
- Some 32-bit filters (notably the Microsoft Office filters) caused GPFs.
- Adding a file type sometimes garbled the "Equivalent-To" file type entries, and could cause GPFs later.

Database and Volume Matching   3.0b

- Volume name and disk drive were not shown in Picture | Properties box.
- The volume label in the directory list was not updated after labeling disk.
- Lower case characters were allowed in FAT label, causing later mismatches.
- Keyword search missed some files.
- ThumbsPlus would not create thumbnails on disks with duplicate serial numbers (notably Iomega Zip disks).
- Unusually slow start-up time when a lot of off-line volumes with large trees were in the database.
- Database conversion utility did not work.
- The Database utilities did not run at all on Windows 3.1. (A useless window appeared that wouldn't do anything, or even close.)

Directory and Thumbnail List Issues   3.0b

- File list was not automatically updated when files are removed or added to the current directory.
- Folders were sometimes colored incorrectly.
- Off-line volumes still appeared, even if "Show Off-line Volumes" was unchecked.
- The keyboard now moves in the File List or Directory List to the first or next item starting with the keyed character.
- Scanning disk or removing thumbnails were not properly interruptible.

ZIP Processing 3.0b

- TTF files within Zips were not thumbnailed.
- Long file names with spaces within Zips were not thumbnailed.
- Progress meter exceeded 100% when ZIP files were scanned on a volume or tree.
- ZIP files with sub-directories sometimes caused GPFs.

Catalog and Contact Sheets   3.0b

- Catalog printing would not always list all available printers.
- Catalog printing would sometimes not print in color output to some printers.
- Directory default for making contact sheets was meaningless.
- There were column, alignment and margin problems when printing catalogs.
- The bitmap background option was not functional when making contact sheets.

File Loading and Processing 3.0b

- Bi-level images with a color map were not displayed correctly.
- MOV files didn't work (not a problem with Thumbs; QuickTime32 2.1.1 beta doesn't provide MCI drivers).
- CSWATM16.EXE (for installing and removing ATM fonts) was not distributed.
- PFB and DXF files were not in THUMBS.TYP as distributed.
- AVI and MOV files showed distorted on some systems when toolbar or status line were enabled.
- Some CEL files (Single-frame FLC format) were not processed.
- Targa files (TGA) files saved with color palettes were not saved properly.
- Highcolor (16-bpp) BMPs caused system failure or weird displays.

File Viewing & General User Interface 3.0b

- Network licenses were not always handled properly.
- Gamma correction slider wiggled on the left inexplicably.
- Cursor blinked when dragging files to a directory.
- There were two "Properties" (I) buttons in the **Options | Customize Toolbar** dialog.
- Mouse cursor sometimes disappeared if you exited a slide show using ESC.
- View window toolbar was not being updated correctly.
- Sometimes a context menu from the window behind the view window would appear after closing a view window using Right-double-click.
- View window became inoperative when Rotate/Resize failed to allocate enough memory to perform the operation.
- A problem with some displays reducing large images (unusually-colored grids appear, for example) was worked around.

Introduction

With the registered version (3.0b-R), Cerious Software provides he ThumbsPlus Database Utilities (TDButil) to convert, repair, and compact ThumbsPlus databases. The user interface is simple – a small window with three options on the File menu (*Convert*, *Repair* and *Compact*, naturally). Select a function, then select the database to process.

Exclusive access to the database is required for all three functions – you cannot have the database open in ThumbsPlus, or open from any other system on the network.

Converting Version 2.x Databases

The "Convert" button allows you to convert ThumbsPlus version 2 databases (.TUD) to version 3 format (.TDB). Because ThumbsPlus now stores a lot of information about files that was not saved in version 2, there are some limitations to the conversion process:

1. Because the volume type was not stored in version 2, the conversion utility cannot tell the difference between a CD-ROM and other removable media. Therefore, converted CD-ROM volumes will have a diskette icon in the directory list rather than a CD-ROM icon.

2. The old format did not store volume serial numbers, so removable disk matching is performed on the volume label only.

3. There are several items of file information which were not stored in the old database. These items will not be shown for thumbnails in version 3 until they are updated:
   - Image dimensions (width and height).
   - Image color format and depth.
   - Image resolution (dpi).
   - File size

1. Thumbnails were stored in the database with a gray background in version 2. These gray backgrounds are converted to version 3. When you update the thumbnails in version 3, the gray backgrounds will be replaced with the current background color.

You can combine multiple .TUD files into a single TDB file by re-using the same file name for the "Convert To" database.

Repairing ThumbsPlus Databases

ThumbsPlus databases are quite complex, and may become damaged in several ways. The most likely is interrupted disk updates when the computer loses power or crashes. Other causes are damaged disk information (FAT tables, directories, cross-linked files, etc.). You should run SCANDISK or CHKDSK regularly to let you know 7that these kind of problems have occurred.

Obviously, the primary way to correct database problems is to reload from backups. You *do* make backups regularly, don't you? That hard disk is not going to last forever!

Should the database become damaged, you may receive database (TPDB) errors, GP faults in TPDB.DLL, or missing or garbled thumbnails. Though not a substitute for a regular backup program, the *Repair* utility will do its best to recover as much of the information in the database as possible.

Note that the Repair utility requires exclusive use of the database. On Windows 3.1, it does not multi-task, so while repairing a database on 3.1 or 3.11, you will not be able to perform other tasks.

Compacting ThumbsPlus Databases

This option compacts (purges) a database so that deleted space is recovered and made available on your hard drive. Note that this option is needed much less frequently in version 3 than purging was in version 2 because the new ThumbsPlus database software automatically re-uses any deleted space for new thumbnails. However, if you remove many thumbnails and do not plan to make more, you can use this option to purge.

Note that compacting copies the database to a new file, so you must have enough room on the disk for a copy of all the thumbnails. Depending on the number of deletions performed recently, this may be nearly the size of the original database.

If the compacting process is interrupted by a system shutdown or power failure, there will be a file with the same name as the original database and the extension '.tD~' which you should delete.