

ALTAMIRA COMPOSER™ SE Distribution Notes for Special Edition SE Release 1.01

This document contains important information that is not included in the *Owner's Manual* or the online Help.

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0.0 For Users of the SE Special Edition

The Special Edition (SE) is a version of Altamira Composer that is limited to 30 image objects. Altamira Composer is a complete image editor for each of these images, and the composition power that is the principal new contribution of Altamira Composer is completely available.

The full version of Altamira Composer allows an unlimited number of image objects. Should you wish to upgrade to this version for the full power of Altamira Composer, please call us at 1-800-4ALTAMIRA. See also Write document *upgrades.wri* for a special offer.

The SE Special Edition is distributed on CD-ROM rather than on diskettes. The CD-ROM holds many more images, and of higher quality, than diskettes. The SE Special Edition setup procedure copies compressed versions of some libraries, images, and compositions to your hard drive. The much less compressed, and thus higher quality, originals of all the installation images are on the CD-ROM. You may use Altamira Composer to read images from the CD-ROM. For example, if drive *e:* is your CD-ROM drive, then in the Open Image dialog of Altamira Composer, select *e:* as your drive and *e:\images* as directory. Click on the desired image there and then OK. Similarly with directories *e:\libs* and *e:\comps* for Open Library and Open Composition in Altamira Composer. If you have enough room on your hard drive, you may want to replace the JPEG versions with the non-JPEG, less compressed versions on the CD-ROM. There are other images, libraries, and compositions on the CD-ROM as well.

1.0 Changes or Additions to the Manual

1.1 Version 1.01

Plug-ins are fully supported. They must meet the Adobe Photoshop plug-in specification. A new entry has been added to the end of the Tools menu: Plug-Ins. A new button has been added to the end of the Image/Libs swappable toolbar. Clicking on either the new menu item or the new toolbar button invokes the Altamira Plug-In Toolkit on the current image. When done applying the desired filter or filters, the changed image is appended to the top of the current composition in Altamira Composer. See the How to Use Plug-Ins section below.

Multiple images can be opened with Open Image. When the Open Image dialog appears, you may select multiple filenames by holding down the Control <ctrl> key while clicking on the desired filenames. Then clicking OK will cause all the selected image files to be added to the current composition. Alternatively, you may select multiple files listed sequentially in the dialog by holding down the Shift key while clicking on the first and then the last filenames in the desired list. Then click on OK to add all images in the list to the current composition.

Multiple libraries can be opened with Open Lib. This works exactly like multiple image selection under Open Image described in the paragraph above.

PhotoCD images can be imported directly with Open Image. In the Open Image dialog, select a directory containing the PhotoCD files (*.pcd* extension). This directory will typically be on a CD-ROM. Then select the desired file by number. On a standard Kodak PhotoCD,

the directory is `\photo_cd\images`, and a typical filename there is `img0001.pcd`, the number corresponding to the thumbnail on the jewel case containing the PhotoCD. The Import PhotoCD command of Altamira Composer continues to work as before, displaying a series of thumbnail images from which one is selected. It assumes a standard Kodak PhotoCD, but there are CD-ROMs that do not follow this standard. For these Open Image should be used. Open Image is also faster when you know the number of the PhotoCD image you wish to import.

Altamira Composer can be opened on a specific image, library, or composition from File Manager. If you double click on a `.acc` filename in File Manager, Altamira Composer will now automatically startup on the selected composition. Similarly, double clicking on a `.all` filename will cause Altamira Composer to start with the selected image library added to the initial composition (Untitled). And double clicking on an image filename with extension `.tif`, `.jpg`, `.tga`, `.pic`, `.bmp`, or `.pcd` will cause Altamira Composer to start with the selected image added to the initial composition.

1.2 Version 1.0

The alignment operators work for alignments to the Composition Guide as well as to other images. When using one of the alignment operators under Align (in the Organize menu), you are asked to select an image to align against, with the *Image?* cursor. If you click on the Composition Guide (or anywhere in the void), the current image or images will be aligned with the Composition Guide. For example, should you select Align Centers and then click on the void, the current image will be centered on the Composition Guide.

You may "drag and drop" an image object between multiple views of the current composition. For example, suppose you have two views: the first is centered on the upper left corner of a very large composition, and the second on the lower right corner. You may click and drag on an image in the first view, drag it over the second view, and release it there without selecting the second view explicitly. A handy use of this is to create a second view somewhere away from your main composition - off in the void somewhere - to hold some interesting objects you may want to use. Then you may drag them from this "holding pen" into a principal view as needed. This way the random objects do not clutter your principal view or views. By the way, the magnification of the different views does not matter. You may drag and drop between views of different magnification.

Some error messages are displayed on the status bar at the bottom of the Altamira Composer window. You are alerted to their presence by a bell sound. An example of this type error is an attempt to Rotate a group or a selection set, an undefined operation. The message will be displayed until the next click of the mouse, for whatever purpose, on a view window of Altamira Composer, or on one of the toolbars, or on the sliders bar.

Free up memory used by spatial transformation. To preserve the quality of spatial transformations (Scale, Rotate, etc.), Altamira Composer always works from the original source image, kept as a separate invisible image object. These sources take up memory that you may wish to reclaim. A simple way to do this is to "bbox" a transformed image with Bounding Box Crop. This will delete the source image from memory. To see the difference, double click on an untransformed image and note its size. Then Scale the image slightly and double click on the result. The size should be approximately twice what it was before, since the source image size is included. Now bbox the image and again double click on the result. The size should be near the original size.

Change printing gamma. The Print command, when printing Compositions, uses a default printer gamma of 1.8. You may change this by changing the PrintGamma=180 line in the [FileSettings] section of the *composer.ini* file in your Windows directory. For example, to change the printer gamma to 1.6, change this line to PrintGamma=160 (or add the line to the [FileSettings] section if it does not already appear there). That is, multiply the desired printer gamma by 100 and use this number. The printer gamma takes care of the nonlinearity of your printing device as explained in the section on Gamma correction below.

2.0 How to Use Plug-Ins

Plug-in filters are supported fully. They must meet the Adobe Photoshop plug-in specification for filters (extension *.8bf* or *.eff*). Plug-Ins can be applied to individual images in Altamira Composer using the Altamira Plug-in Toolkit. Here's how it works:

1. Select the image to which you wish to apply the plug-in by clicking on it.
2. From the Images/Libs toolbar, click on the Plug-Ins button (or select Plug-Ins from the Tools pull-down menu). This will automatically open the selected image in a window in the Altamira Plug-In Toolkit, which is actually a separate application.
3. In the Altamira Plug-In Toolkit, if you have not already done so, set the directory in which your plug-ins can be found. Do this by using the Options entry in the Plug-In pull-down menu.
4. Use the Plug-In menu of the Altamira Plug-In Toolkit to see a list of the plug-ins available in the directory specified in step 3 above. Alternatively, use the Other entry in the Plug-In pull-down menu to invoke a file dialog from which a plug-in filter can be selected by filename (*.8bf* or *.eff* extension). Click on the desired plug-in name (or alternatively its filename). It will either execute immediately on the image or will display an interface provided by the plug-in vendor for specifying parameters before it executes. See the plug-in vendor documentation for details of how this works.
5. After the selected plug-in has been applied to the image, simply return the results to Altamira Composer by clicking on the Return Image button (the horse) or select "Return Result" from the Image pull-down menu. The image will be returned to Altamira Composer as a new image object in the current composition. You can, of course, apply several filters to the image before returning it to Altamira Composer.
6. Images may be passed freely back and forth between Altamira Composer and the Altamira Plug-In Toolkit as described above. When both programs are running, you can toggle between them by simply clicking on them one at a time or, if one of them is hidden by the other, by using Alt+Tab to reveal the hidden one. You may have to use Alt+Tab several times to reveal the desired program if you have several running.

Most plug-in vendors assume rectangular images rather than the arbitrary shapes championed by Altamira Composer. Most plug-ins modify color and not shape so perform as expected. However, some plug-ins modify shape in the sense that they move colored pixels away from their original positions into positions formerly occupied by the background color. An example is the Glass Lens filter in Kai Power Tools. In these cases, the fact that the plug-in does not change the alpha channel of the image object (which is usually the case for most plug-in vendors) can cause results that might be unexpected. In other words, while the plug-in might extend the color part of an image beyond its original boundary, the new image (which might be larger than the original) will be cropped when the original image's alpha channel is reapplied. Send this type of plug-in a rectangular image to avoid surprises. Incidentally, the plug-in filters that modify shape as described above work on Altamira Composer image objects exactly as they would on so-called selection sets of pixels from older imaging applications.

3.0 Large Memory Considerations

If you are short on memory space, we recommend that you set Undo Enabled to No (in Edit Options under Options).

On all machines, but especially the smaller ones, we recommend you use as much virtual memory as you have physical memory. Set the size of your virtual memory from the Windows Program manager:

Choose the Control Panel. Then choose 386 Enhanced. In its dialog click on Virtual Memory.... This will show you your current virtual memory setting. Click on Change>> to change the size of your virtual memory. Use the Recommended size (listed in the dialog) if you are not sure what all this means.

If you are using DbISpace in DOS 6.0 (or newer) to double the size of your disk memory, then you must put the virtual memory on the uncompressed disk. For example, if you have doubled drive c: with DbISpace, then there is another drive, typically g:, that is the uncompressed version of c:. Find this drive and put the virtual memory there.

N.B. Virtual memory is much slower than real physical memory (because it is really your disk masquerading as memory). In imaging apps, there is no substitute for the real stuff. More RAM is the cheapest accelerator there is.

Our recommendation is that you have 2-3 times as much physical memory as required by the images you are using at one time for a typical job.

4.0 Setting up Your Monitor

For maximum enjoyment and usefulness of Altamira Composer, you should set up your display monitor. Unfortunately, this aspect of an imaging application is often overlooked, which leads to trouble when porting images from one application to another.

4.1 Brightness and Contrast

Every display monitor has at least two controls, for brightness and contrast. A non-scientific way to adjust these which is often adequate is this: Set both knobs to their midrange positions. Sometimes there is a detent at this position so that you can feel when you are there. Brightness is sometimes identified with a "sun" symbol - a circle surrounded with radiating rays. Contrast is often marked with a circle divided vertically into two halves, which are sometimes colored white and black (or some approximation thereof). Then ...

For brightness: Fill your screen with essentially all black. An easy way to do this is to close Windows and return to the MS-DOS prompt, giving you mostly black with a little white or colored text on it. Now turn the brightness knob in the direction that increases brightness. Usually you will see the black screen begin to get obviously non-black with respect to the slight margin of the screen that is not illuminated at all (and which you can take as your black reference). Back off the brightness knob until the screen becomes just black but no further.

For contrast: Put up a colored image with colors familiar to you. Adjust the contrast knob until you get a satisfactory feeling about these colors, typically a little "punch" to them. Some of the Patterns of Altamira Composer might serve this purpose for you: Color Array, Color Bars, Hue v Whiteness, or Hue v Blackness, for example. To get the Color Array: Restart Windows. Start Altamira Composer. Under the Tools menu, select the Patterns menu. From this select Color Array. Draw out a rectangle on the display screen of the desired size (we recommend that you fill up a substantial area of the display screen). Then click <enter>.

4.2 Gamma

If images come in from files too light or too dark, there is most likely a problem with gamma. Be sure to adjust brightness and contrast before adjusting gamma.

Gamma is perhaps the most misunderstood concept in computer graphics applications. Part of the reason is that the term is used to mean several different things. In Altamira Composer, gamma always means only one thing: Gamma is the term used to describe the nonlinearity of your display monitor.

All computer display monitors (and all TV sets) are nonlinear. This means that if the voltage on their electronics is doubled, their brightness does NOT double as you might expect it to. In fact, it varies as the square of the voltage. If it varied by the square exactly, we would say it had a gamma of 2. But all monitors are slightly different, so the actual gamma of your monitor might be anywhere from 1.4 to 2.6, instead of 2. Very typical gamma numbers are 1.8 for the PC and Mac worlds and 2.2 for the broadcast TV world (and for PCs using

TV graphics boards, such as Truevision Targa+), but these should not be taken as gospel. They vary from display to display, even on displays from the same manufacturer. Any gamma other than 1 is "nonlinear".

The other important point is that all computer graphics computations **assume** linear images. This means simply that half red plus half red gives full red. This is fundamental to the industry.

There are two ways to take care of this mismatch between the nonlinear display and the linear computation: (1) take care of the nonlinearity in the display, or (2) take care of it in the data. Only (1) preserves your data for later use.

Unfortunately, many applications force you to take care of your display nonlinearity by making your image data nonlinear. They do this by assuming the default monitor gamma is 1, or linear. This works, so long as you never use the resulting image for another image computation, and so long as the next display you show the image on (including ink on paper) has the same nonlinearity as your original display. This has "worked" often enough in the past for the mistake to have been tolerated.

But the whole idea of Altamira Composer (and imaging applications from now on) is to take images from many sources and composite them together to form new images (which may then be used by someone else as a component in yet another image, and so on). Altamira Composer **must** assume linear data in its images for these computations, and hence nonlinearity in its display.

Thus Altamira Composer assumes the default monitor gamma is 1.8 for PCs. This can be changed in View Options under the Options menu (180 is 1.8 times 100 to make it a whole integer number in this dialog). The application corrects for the nonlinearity of your display during the display process, not the computation process. The data in images inside Altamira Composer can always be assumed to be linear, and linear data is always stored to files.

If you import images from applications that have forced the display nonlinearity into the data, you will - not surprisingly - get unexpected results. For this reason, Altamira Composer provides for the removal of the unwanted nonlinearity with a so-called "degamma" process. Of course, there is no way for Altamira Composer to know exactly what nonlinearity has been stored in the imported data. (That is the problem with storing the nonlinearity in the data.) It just guesses by using the monitor gamma setting in View Options to degamma the data. So if you are importing nonlinear images from a broadcast video app, you might want to set this option to 220 (2.2 times 100). But remember to reset it to your monitor's gamma after you finish importing.

Kodak Photo CD is one major source of nonlinear image data. It stores nonlinear data with an assumed gamma of 2.2. (You will see it expressed in Kodak literature as .45 which is $1/2.2$.) Altamira Composer provides a Degamma Correct option on the Import PhotoCD dialog. It is On by default, and it assumes 2.2 regardless of your View Options setting, the only degamma correction in Altamira Composer which does ignore this setting.

Another common source of nonlinear image data are applications supporting the Targa (.tga) image format and Windows (.bmp) image format. An option called TGA, BMP Degamma Correct is provided in File Options under Options to automatically take out the nonlinearity in these images. It defaults to No (since Altamira Composer itself stores linear data in these two formats). If you import images from

applications storing nonlinear data in these formats, set this option to Yes. But remember to set it back to No for general use. One caution here: Targa apps are usually for broadcast TV with typical gamma of 2.2 (or even higher). Windows apps usually assume 1.8.

Gamma can be confusing, as the above probably illustrates. Here are the simple rules Altamira Composer uses: Images are always assumed to be linear. Gamma is applied only to the display of images and not to the data of the images. The display is assumed to be nonlinear (because it is). Ink on paper is one form of display, another is a video monitor, and another is a photograph. They are all nonlinear in different ways.

We encourage you to set the monitor gamma assumption in all your imaging applications to the same (greater than 1) value. Most applications provide a way to do this. If you do, you will get compatible results between apps.

5.0 Magic Wand and Color Lift

Altamira Composer's Color Lift is the same as so-called "magic wand" in older imaging applications. The principal difference is that Altamira Composer creates a new image from the selected colors rather than changing the pixels of the original image. As usual, Altamira Composer does not modify an image unless explicitly directed to do so. "Magic wand" is listed, for convenience, in the on-line Help for Altamira Composer and in the index of the *Owner's Manual*. It references, of course, Color Lift.

6.0 Credits

Altamira Composer supplies images, libraries of images, and compositions of images as part of its installation and includes others on a CD-ROM accompanying the installation or sent in response to a returned user registration card. For full credits on these images and usage restrictions, if any, see the Write document *credits.wri* in your Altamira Composer installation directory.

7.0 TWAIN Image Input Devices

Altamira Composer supports the TWAIN image input device specification for scanners and other devices. For full details, including troubleshooting assistance, see the Write document *twain.wri* in your Altamira Composer installation directory.

8.0 Graphics Cards Notes

Altamira Composer requires the use of a graphics card supporting 32,000 colors or more and Windows 3.1 (or newer). For details on some of these cards and problems, if any, with them, see the Write document *gfxcards.wri* in your Altamira Composer installation directory.

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