

OPTPiX iMageStudio Tutorial

iMageStudio TIPS



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Q01: How to know the color of a pixel?

Ver.5 ○

Ver.4 ○

Ver.3 ○

<Basic Operation: Displaying the Colors Used in Image Pixels>

Answer: While the mouse cursor is on a pixel, its color information is displayed in Information Window. Colors used in an Indexed Color Image are also displayed in Palette Editor on the right side.

Displaying the Colors Used in Image Pixels

In iMAGEStudio, color values of pixel at the cursor position are always displayed: look at the [R][G][B] values in the **Information Window** (see Figure 1).

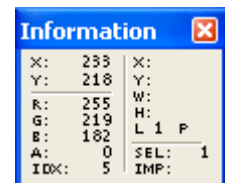
For an **Indexed Color Image**, pixel colors are also shown in the **Palette Editor** at the right side of the image (see Figure 2). Move the mouse cursor around on an Indexed Color Image. You will see a blinking mark jumping around in the Palette Editor. This mark is indicating the Palette Entry of the pixel at the current cursor position.

Information Window and Palette Editor

1.Information Window

[X] and [Y] are coordinates of the cursor position.

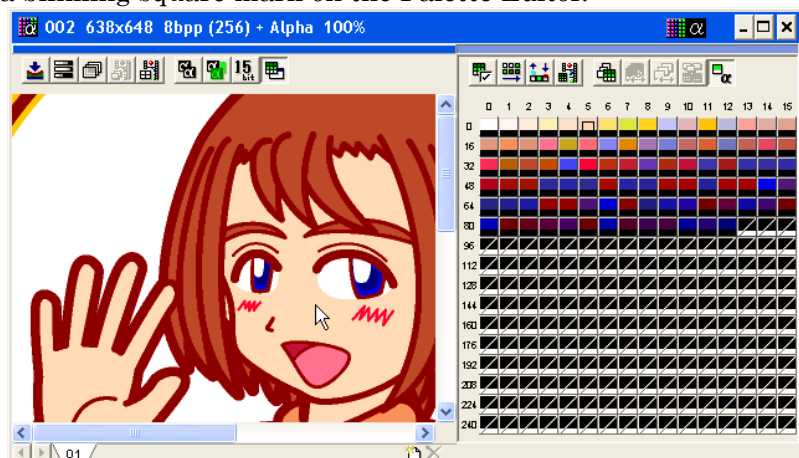
[R], [G], [B] and [A] indicate Red, Green, Blue and Alpha values of the color at the cursor position.



<Figure 1>

2.Palette Editor

Palette Editor displays all the colors used in the Indexed Color Image. The pixel at the cursor position of the image is using a color in the Palette, which is called a Palette Entry, and is indicated by a blinking square mark on the Palette Editor.



<Figure 2>

Q02: How to select multiple Palette Entries?

Ver.5	○
Ver.4	○
Ver.3	—

<Palette: Selecting Discreet Entries>

Answer: You can select a *sequence* of Palette Entries (see Figure 1) by clicking both ends, using [Shift] + Click for the latter. On version 4 (or later) of iMageStudio, you can use [Ctrl] + Click combinations to pick up separate entries (see Figure 2).

Selecting Palette Entries

One Palette Entry can be selected by just clicking it in Palette Editor. After selecting an entry, you can move it, copy it, or delete it. Many other operations are possible for a selected Palette Entry.

Selecting *multiple* Palette Entries often saves great amount of time because you can move, copy, or delete multiple colors in single operation. You can also select multiple entries to adjust their colors (see Q03).

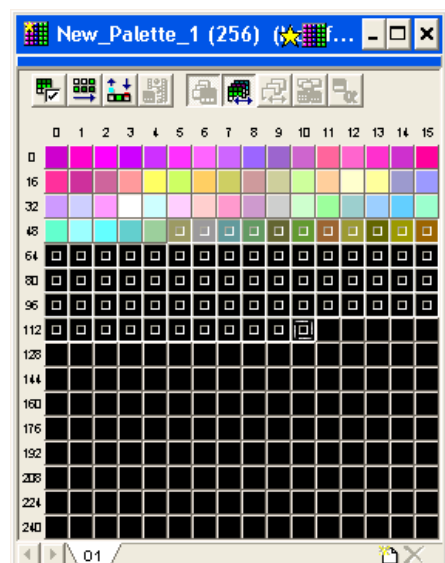
Two or more consecutive Palette Entries can be selected by the first technique described above, pressing [Shift] key down while you click to choose the end of selection. This is a standard Windows operation.

[Ctrl] + Click technique is introduced into iMageStudio version 4 for you to pick up two or more Palette Entries scattered among other entries in Palette Editor.

How to select Multiple Entries

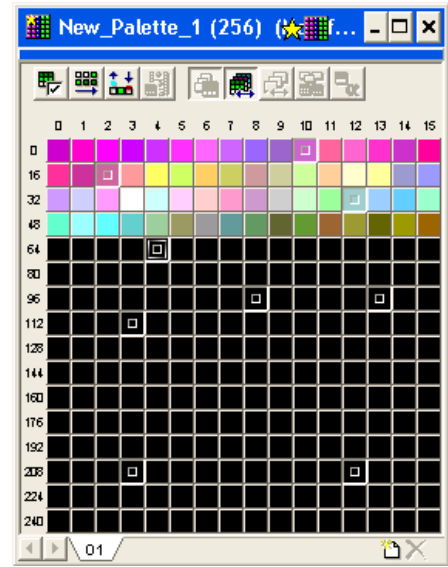
1. Here are demonstrations of two ways to select multiple entries in Palette Editor.

When you want to select *consecutive* entries, click the first entry and then click the last entry while pressing down a [Shift] key. The two entries and entries between them will be selected by this operation (see Figure 1).



<Figure 1>

2. When the target entries are not consecutive, click each entry with [Ctrl] key pressed down. Repeat this operation until you get the desirable selection of colors (see Figure 2).



<Figure 2>

Q03: Can I adjust the colors of selected Palette Entries?

Ver.5	○
Ver.4	○
Ver.3	—

<Palette: Adjusting Colors of Selected Entries>

Answer: Yes, you can adjust colors of selected Palette Entries of an Indexed Color Image, as well as all colors used in the image.

Adjusting Colors of Selected Entries

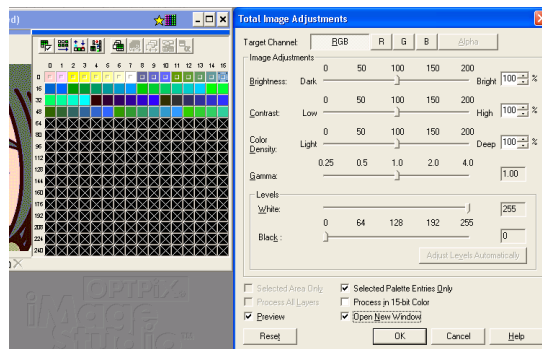
In iImageStudio, you can select multiple Palette Entries, and then adjust the colors of selected entries. In this way, you can apply Gamma correction, for example, to only the selected colors of the Indexed Color Image.

How to do it

Follow the procedure below to apply color adjustment to selected colors in Palette:

1. To begin with, open an Indexed Color Image or an image sharing a common Palette.
2. Next, select Palette Entries you want to adjust colors (see A02) and then select a color correction tool from [Image] menu: for example, Total Image Adjustments (see Figure 1).
3. Find an option named [Selected Palette Entries Only] in the color correction tool and click its box. A check mark appears in the box to indicate that the option is turned ON.

Now you can correct or adjust colors of the selected Palette Entries.



<Figure 1>

Q04: Can I change the order of Palette Entries?

Ver.5	○
Ver.4	○
Ver.3	△

<Palette Sort>

Answer: Yes, you can change Palette Entry order by sorting them automatically or by dragging and dropping arbitrary entries.

Palette Sort and other operations

Palette Sort is an iMageStudio function to sort Palette Entries according to various orders, such as [YUV], [HSV], [HLS], or [RGB] color order, iMageStudio's original "Neuro" sorting, Alpha Value order, Reference Frequency order, Emerging order and even in Reverse order. Select the best [Sorting Method] for your needs.

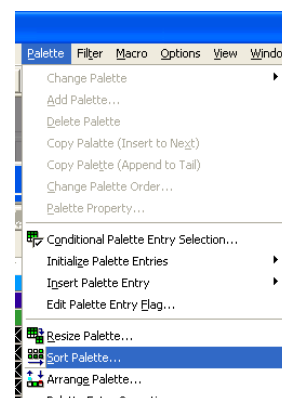
When you want to do it manually, you can freely move the position of an entry by dragging and dropping in the Palette. On Version 4 and later versions of iMageStudio, you can use "Right Drag and Drop" operation for other operation than moving.

How to Sort Palette Entries

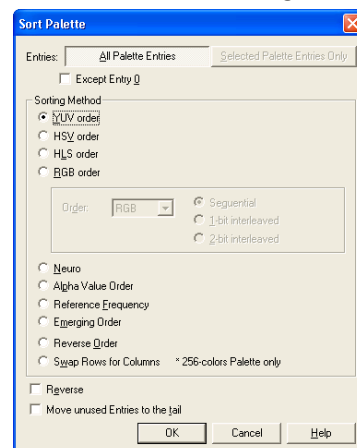
1. When you want to sort a part of Palette, select Palette Entries that you want to sort. You can use [Shift] or [Ctrl] key to select multiple entries (see Q02).

NOTE: iMageStudio Version 3 does not sort a part of Palette. It always sorts the whole Palette.

2. Select [Sort Palette] from [Palette] menu (see Figure 1).
3. At the [Sort Palette] Dialog (Figure 2), select a [Sorting Method] of your choice.
4. Click [OK] button and the Palette Entries will be sorted.



<Figure 1>



<Figure 2>

How to Drag and Drop Palette Entries

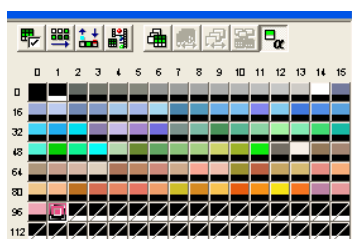
1. Select a Palette Entry you want to move by moving a mouse cursor to the entry position and then pressing down Left mouse button (see Figure 3).
2. While pressing the Left button, drag the mouse to move the mouse cursor to desirable position (see Figure 4: in this case, the first entry position at the top left corner).
3. Release the Left mouse button to “drop” the Palette Entry there (see Figure 5).

Hint: You can choose to do something different by pressing a key while you drop:

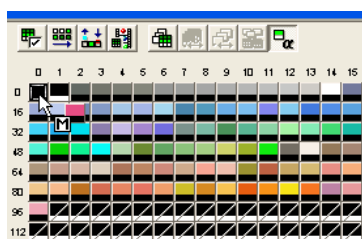
[Ctrl] key for Copy Color Values

[Shift] key for Exchange Palette Entry Locations

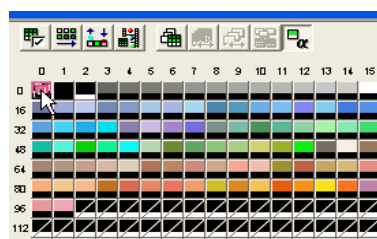
[Ctrl] + [Shift] key for Exchange Color Values



<Figure 3>



<Figure 4>

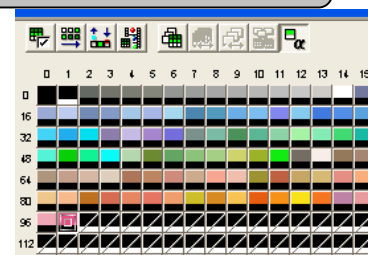


<Figure 5>

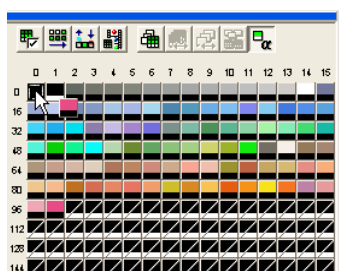
How to “Right Drag and Drop” Palette Entries

On iImageStudio Version 4 or later, you can use “Right Drag and Drop” operation to change the Palette Entry order:

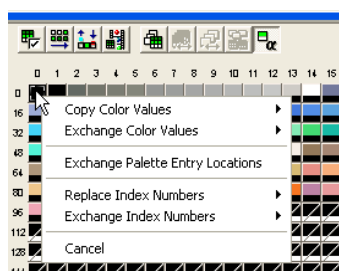
1. Select the Palette Entry you want to move (Figure 6).
2. Drag the entry using Right mouse button (Figure 7).
3. Drop the entry to the destination position. A context menu appears (Figure 8).
4. Select a desirable operation from the context menu (Figure 9).



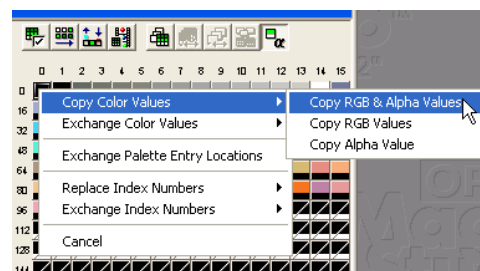
<Figure 6>



<Figure 7>



<Figure 8>



<Figure 9>

Q05: How do I find out duplicate colors in my Palette and unify them?

Ver.5	○
Ver.4	○
Ver.3	—

< Arrange Palette >

Answer: You can unify Palette Entries of the same color by using [Arrange Palette] Dialog, which you can visit from [Palette] menu.

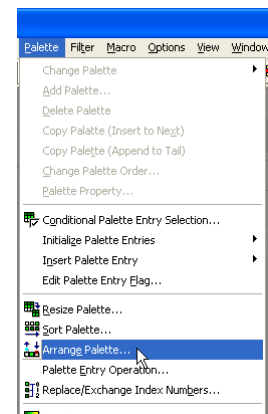
Arrange Palette

A Palette of iMageStudio is not fixed: you can change or arrange the Palette in various ways. Above all, the most flexible tool is **Arrange Palette** function, in which you can arrange Palette Entries from one Dialog in various ways like unifying, initializing and moving. You can effectively use the limited entries of a Palette by using “Unify Same Colors” and “Arrange unused Entries” features of this function.

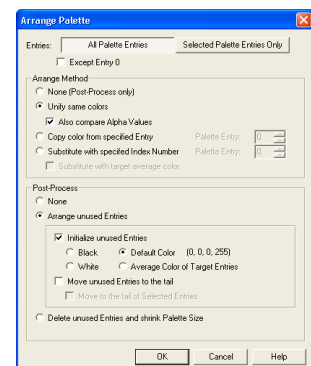
How to Arrange Your Palette

1. When you want to arrange a part of your Palette, select Palette Entries that you want to arrange. You can use [Shift] or [Ctrl] key to select multiple entries (see Q02).
2. Select [Arrange Palette] from [Palette] menu (see Figure 1).
3. Choose an [Arrange Method] you want to use. If you select [Unify same colors], iMageStudio will find out all Palette Entries with identical colors and unify them (Figure 2).
4. Duplicate entries will become empty or “unused” after you unify them. You can select a [Post-Process] to initialize them or move them to the tail. For example, if you want to put Black color on all unused entries, check [Arrange unused Entries], [Initialize unused Entries] and then select [Black] (see Figure 2).
5. Click [OK] button and iMageStudio will automatically arrange your Palette.

Hint: When you want to register the same color to selected Palette Entries, select [Copy color from specified Entry] as [Arrange Method].



<Figure 1>



<Figure 2>

Q06: I have used up all Palette Entries. How can I use more colors?

Ver.5	○
Ver.4	○
Ver.3	—

< Replace/Exchange Index Numbers >

Answer: It is easy to find and unify similar colors by using a function called [Replace/Exchange Index Numbers]. You can also Replace Index Numbers by “Right Drag and Drop” operation.

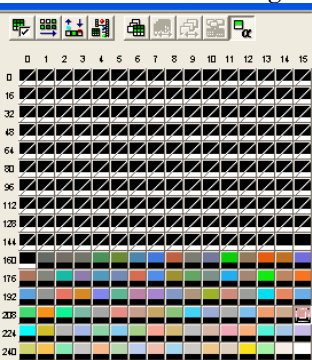
Replace Index Numbers

In iImageStudio, you can easily unify similar colors in Palette by “Right Drag & Drop” operation or by using [Replace/Exchange Index Numbers] function in [Palette] menu. This is handy when you cannot [Arrange Palette] to increase unused Palette Entries.

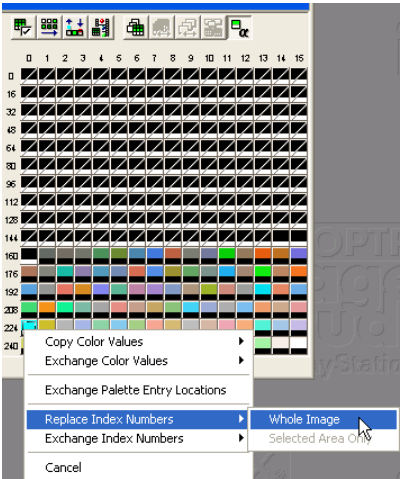
Tip: When your Palette size is smaller than 256 colors, you can select [Resize Palette] from [Palette] menu to make your Palette size larger (up to 256 colors). In this way, you can possibly make a lot of unused Palette Entries.

Right Drag and Drop Operation

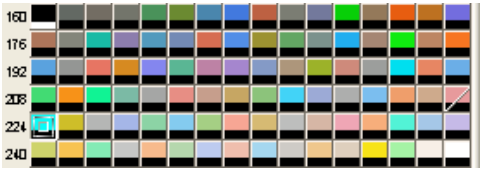
1. Select a Palette Entry that you want to replace its color (in the example shown in Figure 1, the selected entry is near the bottom-right corner). You can also select multiple Palette Entries.
2. Using right mouse button, drag the selected entry to another Palette Entry, which has most similar color to the color of selected entry. Then, drop it by releasing right mouse button (this is the Right Drag & Drop operation). From the pop-up context menu, select [Replace/Exchange Index Numbers] – [Whole Image] (see Figure 2).
3. The entry you have selected in Step 1 will become unused (indicated by diagonal lines over it). (See Figure 3)



<Figure 1>



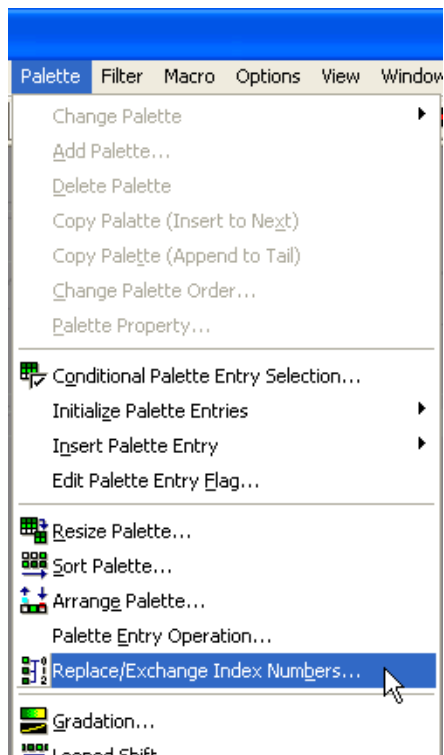
<Figure 2>



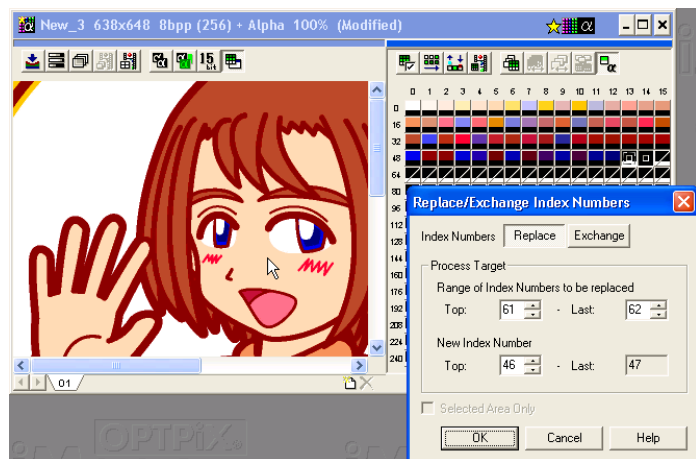
<Figure 3>

[Replace/Exchange Index Numbers] Dialog Operation

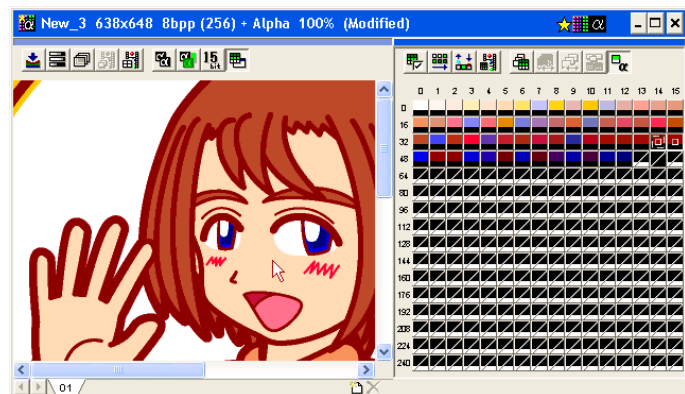
1. Select [Replace/Exchange Index Numbers] from [Palette] menu (Figure 4).
2. At the [Range of Index Numbers to be replaced] in [Replace/Exchange Index Numbers] Dialog, specify the range of index numbers to be replaced (in Figure 5, numbers from 61 to 62 are specified).
3. At the [New Index Number] in the Dialog, specify the range of index numbers, which will replace the index numbers you specified in Step 2 (in Figure 5, numbers from 46 to 47), and click [OK] button.
4. The Palette Entries in the range of index numbers you specified in Step 2 will be replaced and become unused (see Figure 6). Diagonal lines indicate that the Palette Entries are unused.



<Figure 4>



<Figure 5>



<Figure 6>

Q07: How to quickly select Palette Entries used in Selected Area of the image?

Ver.5	○
Ver.4	—
Ver.3	—

< Conditional Palette Entry Selection >

Answer: Use [Conditional Palette Entry Selection] function. It is easy to select Palette Entries that match a condition you specify in various ways.

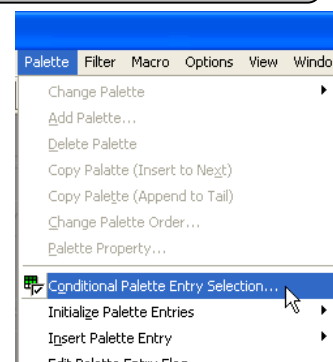
Conditional Palette Entry Selection

On iImageStudio Ver. 5, you can select all Palette Entries that are **Used in Selected Area** of the Image by using [Conditional Palette Entry Selection].

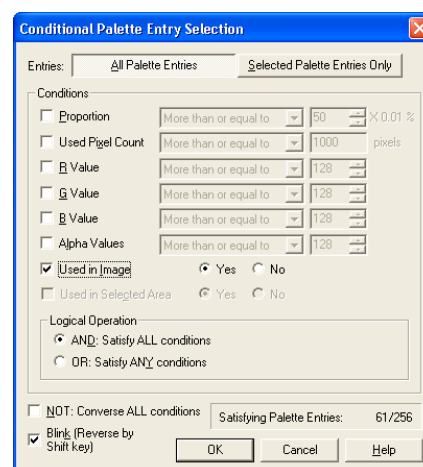
This is a handy function to quickly select Palette Entries that match various conditions such as usage in the image (by Proportion or Used Pixel Count) and RGB values. You can set one condition or several conditions using Logical Operation (AND, OR, NOT).

How to Use It

1. Select [Conditional Palette Entry Selection] from [Palette] menu (Figure 1).
2. In the [Conditional Palette Entry Selection] Dialog, specify the condition to apply to the automatic selection of Palette Entries. If you want to select Palette Entries used in Selected Area of the image, check [Used in Selected Area] box and also select [Yes] (Figure 2).
3. Click [OK] button, and the Palette Entries will be selected automatically.



<Figure 1>



<Figure 2>

Q08: I'd like to check where in the image the Selected Palette Entry is used.

Ver.5	○
Ver.4	○
Ver.3	○

< Check Selected Color>

Answer: You can easily check it by [Check Selected Color] function or [Back Space] key.

Check Selected Color

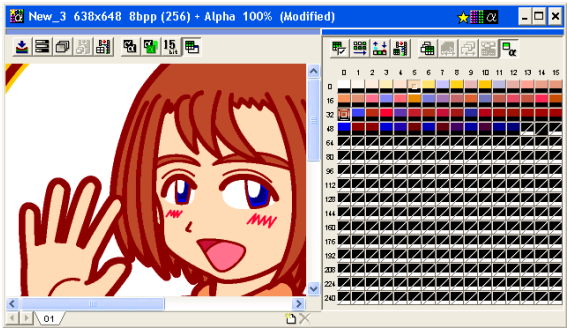
In iMageStudio, you can easily check the location(s) on the Indexed Color Image, where one or multiple Selected Palette Entries are used.

How to Check Selected Color

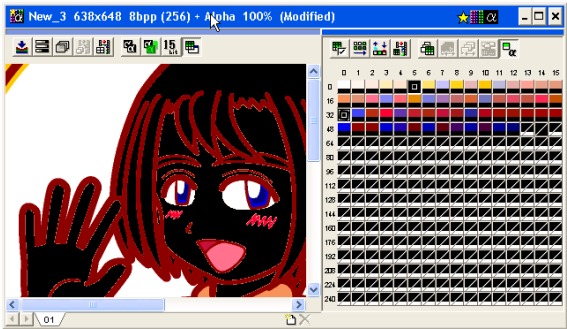
- 1. Select one or more colors from the Palette (one color is selected in Figure 1).
- 2. While you are pressing [Back Space] key down, the image area of the selected color blinks (Figure 2).

Otherwise, you can select [Check Selected Color] from [Edit] menu. In this way, you can also check how many pixels are using the selected color.

Either way, you can reverse the blinking color by pressing [Shift] key while the color area is blinking.



<Figure 1>



<Figure 2>

Q09: How to merge Palettes of multiple Indexed Color Images?

Ver.5	○
Ver.4	○
Ver.3	—

< Integrate All Layer Palettes >

Answer: You can use [Integrate All Layer Palettes] function to merge all layer Palettes of a multilayer image.

Palette Integration

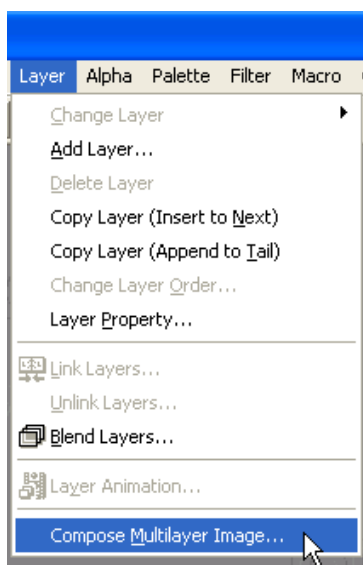
When you want to merge different Palettes of Indexed Color Images that are layers creating a multilayer image, you can use [Integrate All Layer Palettes] function.

If your Indexed Color Images consist of separate files, you can merge their Palettes in two steps: first, make a multilayer image from your Indexed Color Images by using [Compose Multilayer Image] function; and then apply [Integrate All Layer Palettes] function to the newly created multilayer image.

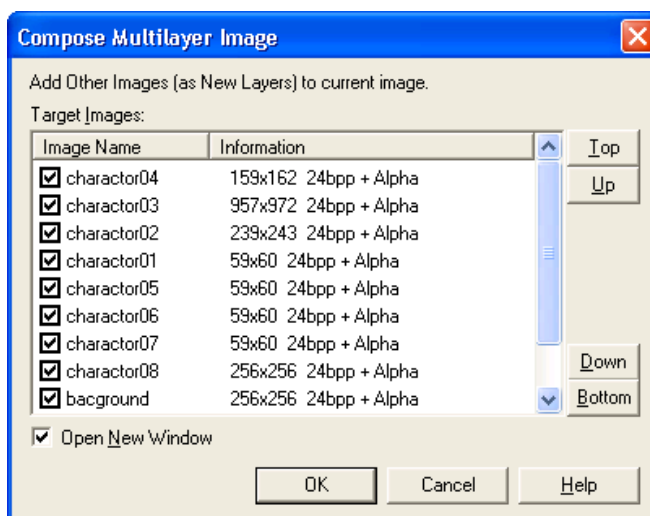
On iImageStudio version 5 or later, you can integrate Palettes of Indexed Color Images in *Multi-Palette Mode* by using [Integrate Multi Palettes] function: switch to Multi-Palette Mode (to combine multiple Palettes) and then apply this function to the Palettes

How to Merge All Layer Palettes

1. When you want to merge images that are not “multilayered”, select [Compose Multilayer Image] from [Layer] menu (Figure 1). If you already have a multilayer image, skip to Step 3.
2. On the [Compose Multilayer Image] Dialog, check all images that you want to merge, and then click [OK] button (see Figure 2).



<Figure 1>

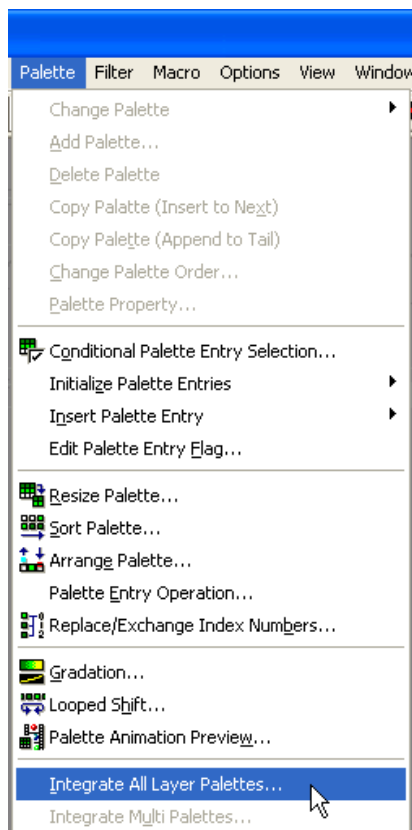


<Figure 2>

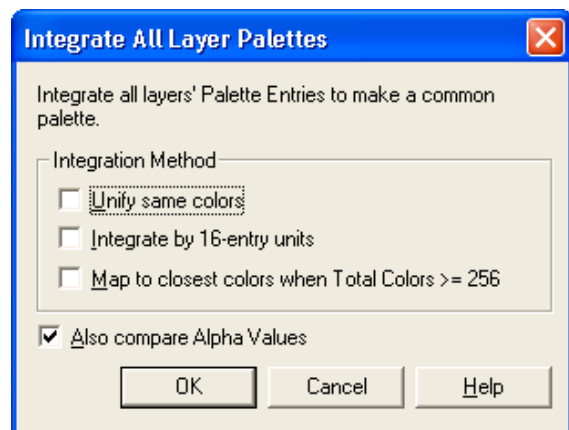
3. Select [Integrate All Layer Palettes] from [Palette] menu (Figure 3).
4. Select an [Integration Method] on the [Integrate All Layer Palettes] Dialog (Figure 4),
5. Click [OK] button to do the integration.

If you apply [Integrate All Layer Palettes] to Palette Entries exceeding the limit of 256, the Palette Entries from 257 will not be integrated. To the image pixels using those colors, replacement colors will be assigned (such as “closest colors”), but the image quality will be degraded.

In this case, you can save the image quality by using Color Reduction instead of Palette Integration. On iImageStudio version 5, turn [Create Common Palette for All Layers] switch ON in [Output] Tab of [Color Reduction] Dialog. On version 4 or earlier, select [Multilayer Color Reduction (Common Palette)] from [Image] menu.



<Figure 3>



<Figure 4>

Q10: I'd like to use keyboard to edit Palette Entries!

Ver.5	○
Ver.4	—
Ver.3	—

<Keyboard Shortcut>

Answer: On iMageStudio version 5, you can use keyboard shortcut for various operations on Palette Entries, such as selecting and moving Palette Entries.

Keyboard Operation on Palette

In order to operate on Palette by the keyboard, there are the following commands (“(Num)” in the table is short for “in the Numeric keypad”). See <Keyboard Operation List> of <Help> for details.

Main Keys for Palette Entry Operation (for version 5 or later)	
[Tab]	Change editing target (from Image to Palette; or Palette to Image)
Cursor keys	Move the focus
Space bar	Select or deselect Palette Entry at the focus
[Shift]+Space bar	Select Palette Entry range to the focus position
[Ctrl]+Cursor key	Align non-consecutive Palette Entry Selection to the head/tail Palette position; Move consecutive Palette Entry Selection up/down/left /right
[Shift]+Cursor key	Move focus while selecting Palette Entries
[Ctrl]+[Shift]+Cursor key	Move Palette Entry Selection while keeping the positional relationship of entries.
[/](Num)	Turn Palette Entry Selection Black
[Shift]+[/](Num)	Turn Palette Entry Selection White
[Ctrl]+[/](Num)	Specify Values for Palette Entry Selection
[*](Num)	Insert Black color into the focus position
[Shift]+[*](Num)	Insert White color into the focus position
[Ctrl]+[*](Num)	Insert specified color into the focus position
[<],[>]	Loop RGBA values of Palette Entry Selection
[Ctrl]+[<],[>]	Loop RGB values of Palette Entry Selection
[Ctrl]+A	Select All Palette Entries
[Shift]+A	Select all Palette Entries in the focused column
[Ctrl]+[Shift]+A	Select all Palette Entries in the focused row
[Ctrl]+D	Cancel Palette Entry Selection
[Ctrl]+C	Copy Palette Entry Selection to Clipboard
[Ctrl]+V	Paste Palette Entries from Clipboard
[Shift]+V	Insert Palette Entries from Clipboard
[Ctrl]+[Shift]+V	Special Paste Palette Entries from Clipboard
[Ctrl]+X	Cut Palette Entry Selection
[Delete]	Delete Palette Entry Selection

Q11: Can I get text data version of Palette Entry RGBA values easily?

Ver.5	○
Ver.4	△
Ver.3	△

<Copy Palette Entry Values>

Answer: Yes, you can. Copy Palette Entry Selection to Clipboard; then you can paste its text data to Notepad or your favorite text editor.

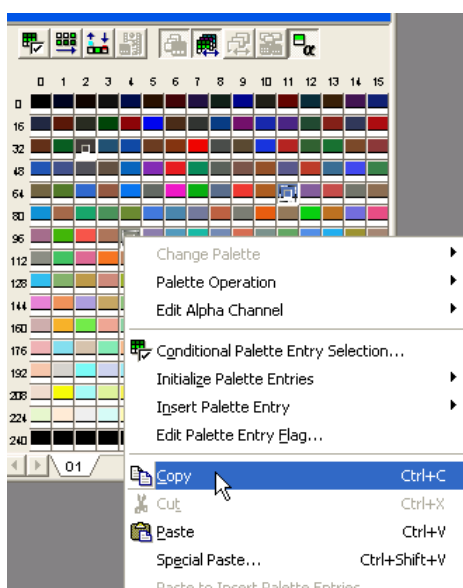
Copy Palette Entry Values

When you copy Palette Entry Selection to Clipboard, iImageStudio copies their RGBA values in a text data format that can be pasted to Notepad or other text editor. This is really handy to get text data version of Palette Entry values.

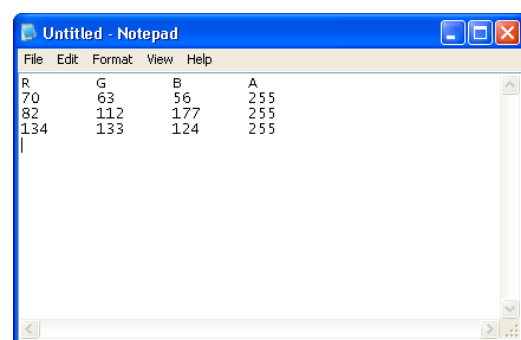
On version 5 and later versions of iImageStudio, you can reverse the copying process. After pasting the text data to your text editor, you can edit the RGBA values, copy them to Clipboard, and paste the data to a Palette of iImageStudio. Moreover, you can even use a spreadsheet application to edit RGBA values and then paste the data to iImageStudio Palette. The text data format of Palette Entry values can be customized on [Environment] – [Other] Dialog box.

How to paste Text Data of Palette Entry Values

1. Select Palette Entries that you want to make their color values in the text data. When you are interested in more than two entries for this process, select them all.
2. Press “[Ctrl]+C” key combination; or, use pop up context menu by making a right-click on the Selection and select [Copy] item from the menu (see Figure 1).
3. Use [Paste] function of your text editor to paste the data from Clipboard (Figure 2).



<Figure 1>



<Figure 2>

Q12: How to adjust RGBA color component levels of an Image?

Ver.5	○
Ver.4	○
Ver.3	—

<Color Correction using [RGBA Value Adjustments]>

Answer: Visit [RGBA Value Adjustments] Dialog from [Image] menu.

RGBA Value Adjustments

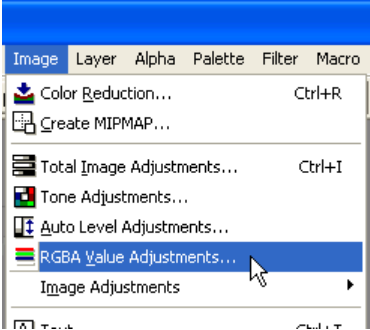
When you want to correct or adjust the colors of your image by tuning its color elements (Red, Green, Blue and Alpha channels), use [RGBA Value Adjustments] function.

In this way, you can control the level of each channel of the image for adjusting the color of the whole image. On the other hand, when you want to correct only the selected colors, check the [Selected Palette Entries Only] switch ON to adjust the RGBA values of the Palette Entry Selection.

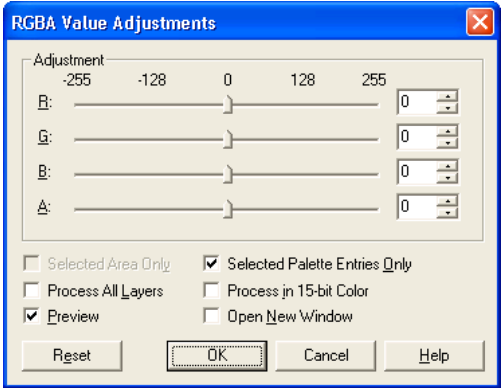
Other color correction tools are available for color component adjustment, such as [Tone Adjustments] function and [RGBA Gamma] Filter that come with iMageStudio version 5.

How to Adjust RGBA Values

1. Select [RGBA Value Adjustments] from [Image] menu (Figure 1).
2. On the [RGBA Value Adjustments] Dialog, increase or decrease the level of each channel by moving its slider right or left (see Figure 2).
3. Click [OK] button to apply color adjustment to the image.



<Figure 1>



<Figure 2>

Q13: I just want to tweak only one channel of RGBA!

Ver.5	○
Ver.4	—
Ver.3	—

<Color Correction by Extracting and Composing RGBA Channel>

Answer: You can correct only one color channel by extracting R/G/B/A channel from your image, adjusting the extracted channel, and then recomposing the image.

Extract and Compose RGBA Channel

If a single color channel of a Direct Color Image needs some fine tuning, which cannot be done with [RGBA Value Adjustment], you can do it by using extraction and composition of RGBA channels.

Using [Extract RGBA Channel] function, you can extract only one color element (Red, Green, or Blue) or Alpha Channel from the selected image: the resulting image will be opened as another distinct image.

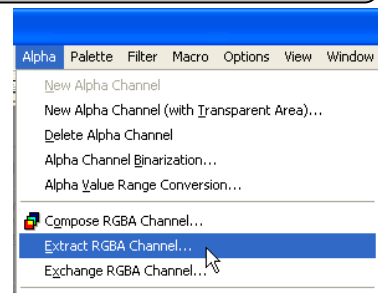
On the other hand, [Compose RGBA Channel] function takes out one channel from an image and composes a new image by combining the channel with another image's channels.

Using these two functions in turn, you can correct only one channel of your image.

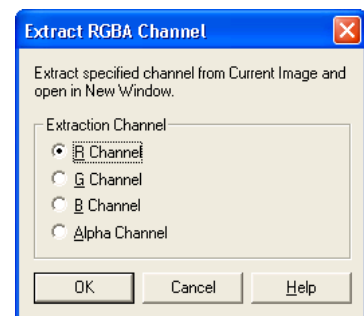
Note: When you want to adjust colors of an Indexed Color Image, use Palette operations and functions.

How to Adjust a Channel

1. Make sure that currently selected image is the one on which you want to operate. Select [Extract RGBA Channel] from [Alpha] menu (Figure 1).
2. Select a channel you want to adjust and click [OK] button (see Figure 2).
3. You can apply various corrections and modifications, such as [Brightness] and [Levels] control, to the newly created image.



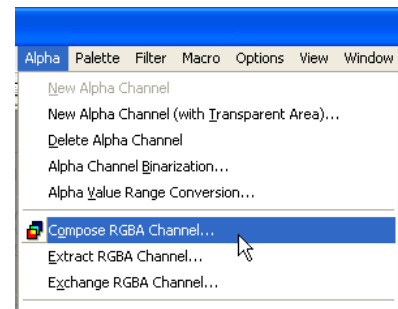
<Figure 1>



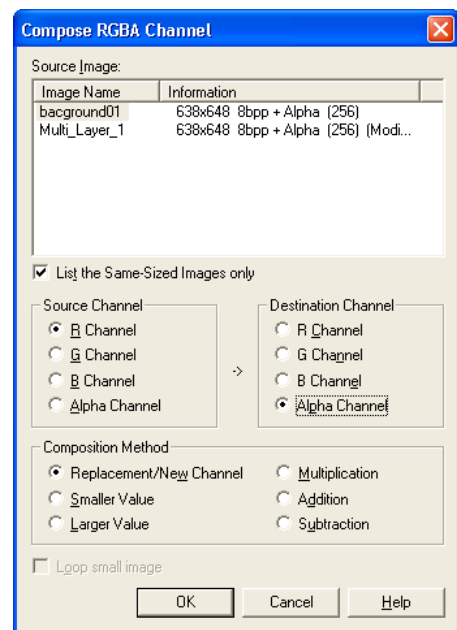
<Figure 2>

4. Select the original image again and then select [Compose RGBA Channel] from [Alpha] menu (Figure 3).
5. On the pop-up Dialog (Figure 4), select the image that you have adjusted in Step 3 as the source image. Next, select the channel to compose the image. Finally, make sure that [Replacement/New Channel] is selected as [Composition Method] because you are going to replace the destination channel.
6. Click [OK] button. The composition will take place, and the one-channel color adjustment will be finished.

On iMageStudio version 5, you can apply [Total Image Adjustments] to Alpha Channel only. This is quite handy, when you adjust the balance of Alpha channel. Another advantage of Version 5 is that you can use [RGBA Gamma] filter to adjust *Gamma value of each channel*.



<Figure 3>



<Figure 4>

Q14: When I paste an image, how can I control its transparent color or composition method?

Ver.5	○
Ver.4	—
Ver.3	—

< Special Paste >

Answer: You can do that by using [Special Paste] function, which gives you fine control on such an advanced pasting.

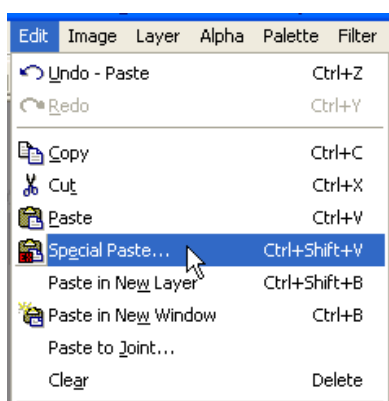
Special Paste

The [Special Paste] function of iImageStudio is an enhanced version of ordinary image pasting: in this way, you can specify transparent color, choose which channel to paste, or other exotic options. Please read the Help document for more information.

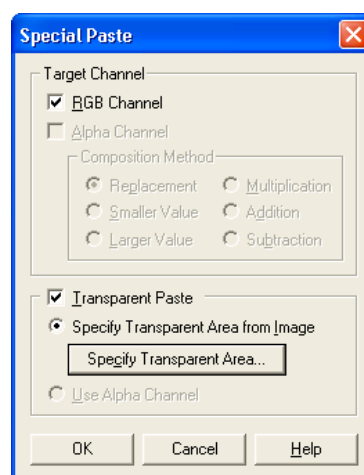
Special Pasting Operation

1. Select [Special Paste] from [Edit] menu (Figure 1).
2. In the [Special Paste] Dialog (shown in Figure 2), you have several options. Suppose that you want to specify a transparent color of the pasting image. In that case, 1) check [Transparent Paste] option, 2) select [Specify Transparent Area from Image] and 3) click [Specify Transparent Area] to specify the transparent color area (see Figure 3).
3. Click [OK] button to execute the special pasting.

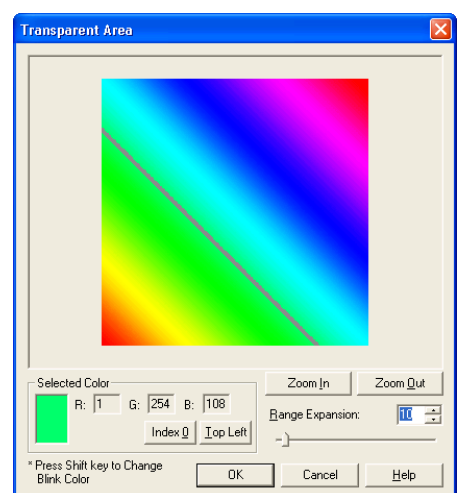
Alternatively, when you want to paste specific channel of the Clipboard image, or to execute other special pasting such as “Compose Alpha Channel by Multiplication”, you can select the [Target Channel] in the [Special Paste] Dialog (see Figure 2).



<Figure 1>



<Figure 2>



<Figure 3>

Q15: Can I proceed with image adjustment while monitoring the final output on TV or LCD screen?	Ver.5	○
	Ver.4	○
	Ver.3	○

<Remote Display on Target Machine>

Answer: Yes, you can. By using iMageStudio's [Remote Display] function, you can always view the final result of your current image processing.

Remote Display

Remote Display function of iMageStudio outputs its image data to a remote TV (or LCD) screen through development/debugging equipment for the target platform. As the device is connected to your PC with a high-speed data cable (such as USB or Ethernet) and the image is processed in real-time, the image editing on your PC with iMageStudio will be displayed on TV monitor in parallel. This is a “must have” facility for efficient creation of high-quality image contents (see Figure 1).

The Remote Display function is available on almost all functions of iMageStudio, including Color Reduction, Palette editing, and filtering process.

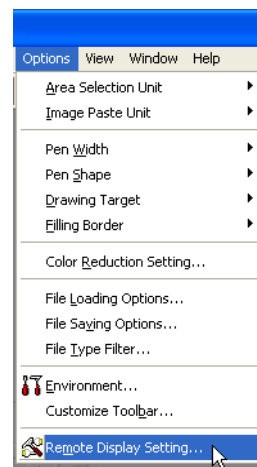
Remote Display Operation

First, make sure that all devices are firmly connected. The Remote Display function requires a development/debugging tool (provided from the maker of your target hardware platform) and a display device (such as TV or LCD video screen), as well as the PC environment running iMageStudio itself.

Note that the cable connection method varies depending on target platform and its development tool. Please refer the instruction manuals of the development tool and also read **Remote Display Manual** in your iMageStudio package for further detail.

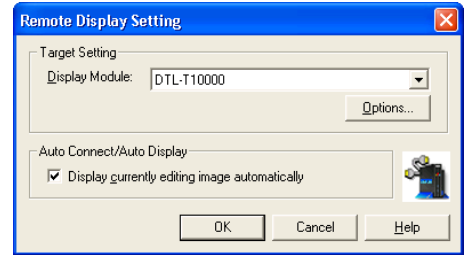
Next, follow the steps described below to start up Remote Display function:

1. Select [Remote Display Setting] item from [Options] menu of iMageStudio (Figure 1).



<Figure 1>

2. At the [Remote Display Setting] Dialog (Figure 2), select a [Display Module] as the output [Target Setting]. Your module may need additional [Options].
3. If you want your image data always displayed on the remote display automatically while editing the image data, check the option named [Display currently editing image automatically]. In this case, you can see the real appearance of your image on the remote display almost simultaneously with the PC monitor. When the option is turned OFF, you can use the Remote Display function whenever you need it by selecting [Remote Display] from [View] menu.
4. Confirm that everything is properly set, and then click [OK] button.



<Figure 2>

Q16: How to adjust Color Reduction for real image colors on the target output?

Ver.5	○
Ver.4	○
Ver.3	○

<Color Adjustment using Color Equalizer>

Answer: Use Color Equalizer function of iMageStudio to create image data fitted for the target machine easily.

Color Equalizer

The same image data looks different on the PC used for image production and on the target game machine because of the different color characteristics of display circuits and output devices. Depending on those characteristics, you sometimes see glaring Red or obscure dark colors not found in the same image on your PC monitor.

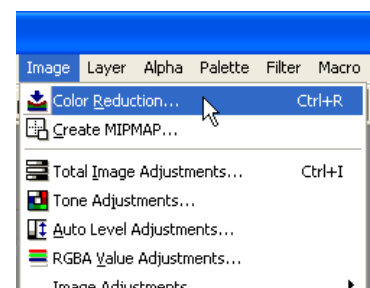
For this reason, you often need to display your image data (created to fit for PC monitor) on the target machine to see how the colors go wrong. You may have to adjust the colors of all image files in the same manner, or even to restructure the color palette. That was the traditional way of life with standard software image tools.

On iMageStudio, however, you can use dedicated Color Equalizer preset for your target machine: the operation is simple and quite easy!

Color Equalizer Operation

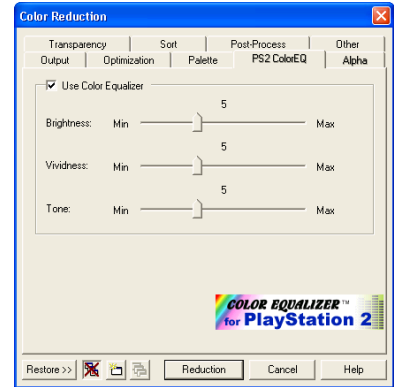
You can set up Color Equalizer in “Color EQ” Tab of [Color Reduction] Dialog:

1. Select [Color Reduction] from [Image] menu (Figure 1).



<Figure 1>

2. Click the tab named “Color EQ” and turn [Use Color Equalizer] switch ON (Figure 2). As the Color Equalizer function is enabled now, iMageStudio’s Color Reduction engine will consider the color characteristics of your target machine to adjust the colors automatically.
3. You can also modify the preset setting for fine tuning, as you need.
4. When you are satisfied with the setting, click [Color Reduction] button.



<Figure 2>

After the Color Reduction process, you will get the image colors fitted to the display characteristics of your target machine.

Q17: How can I keep specific colors in Color Reduction? Ver.5 ○
Ver.4 ○
Ver.3 ○

<Basic Operation: Important Area Selection>

Answer: You can specify privileged colors by [Important Area Selection] before Color Reduction.

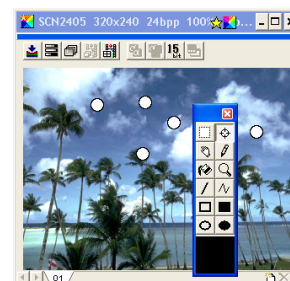
Important Area Selection

When you want some specific colors to survive Color Reduction process, you can use iImageStudio's [Important Area Selection] to give special privilege to the colors in the area you specify.

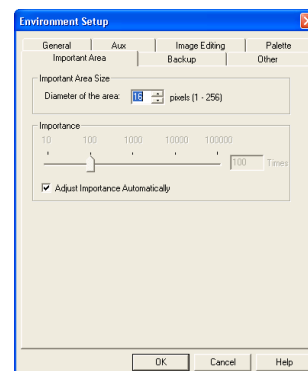
For example, imagine a photo of trees with massive green leaves and small bits of red berries. If you apply Color Reduction to this image, a significant part of red colors might be lost because of their small proportion to the whole image area. In this case, you can specify the area of red berries as "Important Area" to keep red colors from Color Reduction process.

How to Select Important Areas

1. Click [Important Area Selection] icon in [Editing Mode Window] (see Figure 1).
2. Click on a spot in your image where the important colors are used. You can click several spots to specify multiple Important Areas. Each Important Area is marked with a white circle; you can cancel the selection by clicking a right mouse button on the circle.
3. After the selection is completed, apply Color Reduction process.



<Figure 1>



<Figure 2>

The size of Important Area might be too large or too small for your purpose. In this case, select [Environment] from [Options] menu and then click [Important Area] Tab of [Environment] Dialog (Figure 2). In the Dialog page, [Size of Important Area] can be adjusted by dots (pixels) in [Diameter of the area] parameter.

In the same Dialog page, you can also choose to modify [Importance] of the colors in selected Important Area. By increasing [Importance], you can put more weight on the colors of pixels in the selected area (for example, “1000 times” means that the chance of survival is 1000 times larger than “non-important” colors).

Please Note: Important Area Selection does not assure the survival of the colors. It is a matter of possibility that a pixel color in an Important Area Selection be left unchanged. If you want an absolute assurance to keep some a set of color as it is, you have to use a “fixed palette” for Color Reduction (see Q18).

Q18: How to use predefined Palette for Color Reduction

Ver.5 ○

Ver.4 ○

Ver.3 ○

<Color Reduction by Fixed Palette>

Answer: Predefined Palette is supported by [Use Fixed Palette] option of Color Reduction.

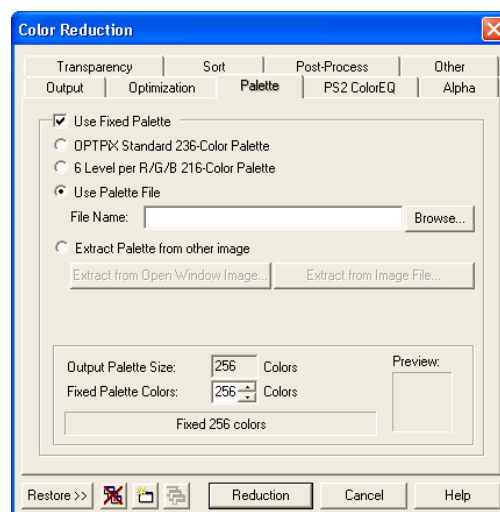
Fixed Palette Color Reduction

A “predefined palette” is often used in image production for game characters and similar works. In this case, you can create character images in full color and then apply iImageStudio’s Color Reduction with [Use Fixed Palette] option to specify the Palette to use for the final Indexed Color Images.

How to use a Fixed Palette

When you have a predefined Palette File, you can follow the steps below to use the palette file for Color Reduction:

1. Select the original image and then select [Color Reduction] from [Image] menu.
2. Click [Palette] Tab of the [Color Reduction] Dialog box and turn [Use Fixed Palette] switch ON (see Figure 2).
3. To specify an existing palette file, select [Use Palette File] and specify the file (you can use [Browse] button for browsing through folders and files).
4. Click [Reduction] button.



<Figure 1>

On iImageStudio version 5, we introduced a new feature for you to borrow colors from Palette of another image. In this case, choose [Extract Palette from other image] option in the [Color Reduction: Palette] Dialog and then specify the target image: you can either [Extract from Open Window Image] or [Extract from Image File] for this type of Fixed Palette Color Reduction.

Q19: How to automate Color Reduction of multiple images with a common Palette?

Ver.5

○

Ver.4

○

Ver.3

○

<Color Reduction: Common Palette>

Answer: You can use a Macro (Batch) function to apply “Common Palette Color Reduction” to multiple image files.

Common Palette Color Reduction

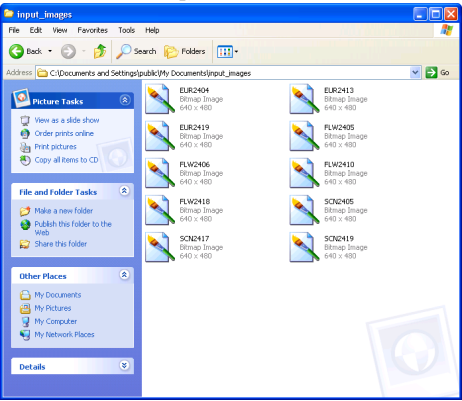
One of the most powerful features of iImageStudio is the automated process execution by flexible Macros. You can take advantage of the rich flexibility of Macro function in order to apply Color Reduction to multiple files and get color-reduced images sharing common Palette.

In this way, Color Reduction can be applied to a group of files, which might be a collection of character images in different postures, or a sequence of images to be animated.

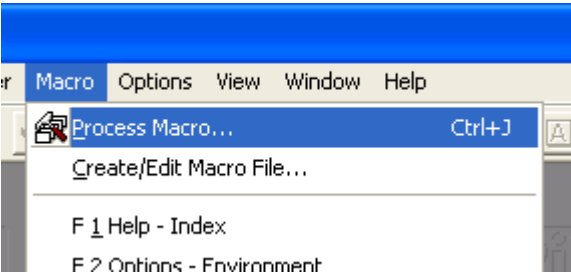
Tip: When you are dealing with several images, you may want to use “Multilayer Common Palette Color Reduction” rather than Macro. It makes one multilayer image consisted of the original images.

How to apply Common Palette Color Reduction

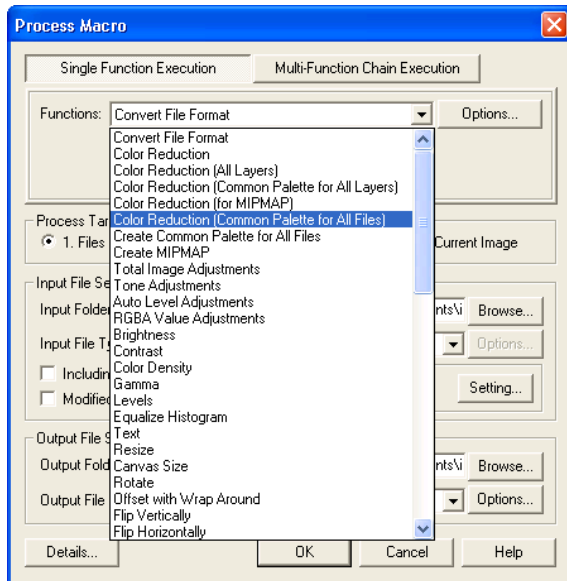
1. As a preparation, gather the source image files in a specific folder (see Figure 1) because it is easier for a Macro to process image files in a same folder.
2. Select [Process Macro] from [Macro] menu (figure 2).
3. At the [Process Macro]-Dialog, click [Single Function Execution] button (or, on iImageStudio version 4 or earlier, click [Standard Function] Tab).
4. From the [Functions] list combo-box, select [Color Reduction (Common Palette for All Files)] as shown in Figure 3 (or, on version 4 or earlier, select [Common Palette Color Reduction]).



<Figure 1>

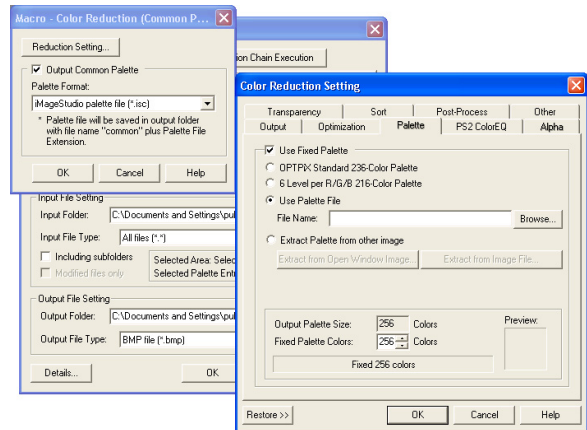


<Figure 2>



<Figure 3>

5. Click [Options] button on the right side to set up Color Reduction parameters in [Macro - Color Reduction (Common Palette for All Files)] Dialog, which is shown at the top of Figure 4 (*1).
6. Back in [Process Macro] and specify the folder you prepared in Step 1 as [Input Folder]. If you want to process files in its subfolders, turn ON the [Including subfolders] option.
7. Specify an [Output Folder] to which images after Color Reduction goes.
8. Click [OK] button to start Color Reduction process for multiple images.



<Figure 4>

*1: When you want to use a Fixed Palette for Color Reduction, click [Reduction Setting] button at the [Color Reduction (Common Palette for All Files)] Dialog. This will bring up the [Color Reduction Setting] Dialog box as shown at the bottom of Figure 4. Please refer the instruction in “Q18: How to use predefined Palette for Color Reduction?” for further details.

Q20: How to close Color Reduction Dialog automatically after the reduction process?

Ver.5	○
Ver.4	○
Ver.3	○

<Basic Operation: Environmental Options>

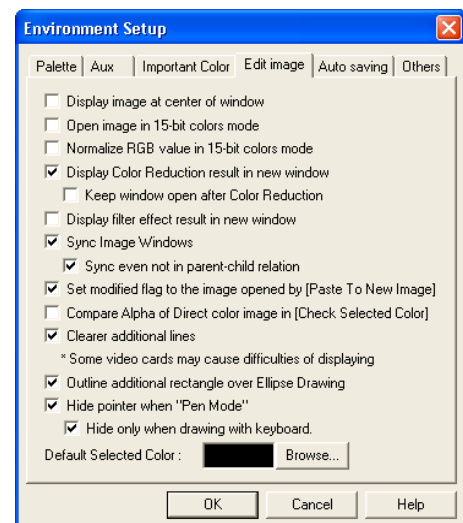
Answer: On versions 3 and 4 of iMageStudio, please visit [Environment] Dialog. On version 5, you can do that in [Color Reduction] Dialog.

<Environmental Options>

There are rich environmental options in iMageStudio to help various users with different needs. To close Color Reduction Dialog automatically is a good example of what you can do with those options. Customize iMageStudio to make your routine work as seamless and efficient as possible.

Customizing Dialog behavior after Color Reduction (Versions 3 and 4)

1. Select [Environment] from [Options] menu. In the [Environment] Dialog box, click [Edit Image] Tab (Figure 1).
2. Uncheck [Keep window open after Color Reduction] option.
3. Click [OK] button.



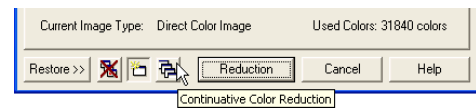
<Figure 1>

This will make Color Reduction Dialog close itself automatically after you click [OK] button.

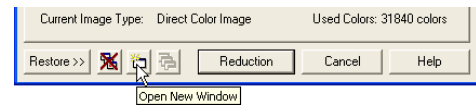
Tip: There is another option in the same Dialog, which may be handy: turn [Display Color Reduction result in new window] option OFF if you don't want new window opened after each Color Reduction process.

Customizing Dialog behavior after Color Reduction (Versions 5)

1. Select [Color Reduction] from [Image] menu to open [Color Reduction] Dialog.
2. Find “Continuative Color Reduction” button at the bottom of the Dialog (see Figure 2) and click it to turn the option OFF (not pushed).



<Figure 2>



<Figure 3>

This will make Color Reduction Dialog close itself automatically after you click [OK] button.

Tip: There is another option in the same Dialog, which may be handy: click [Open New Window] button (Figure 3) to turn the option OFF (not pushed) if you don't want new window opened after each Color Reduction process.

Q21: How to put images before and after a process side by side to compare the same part?

Ver.5	○
Ver.4	△
Ver.3	△

<Basic Operation: [Sync Image View]>

Answer: Use [Sync Image View] function to synchronize two views of images before and after a process.

Sync Image View

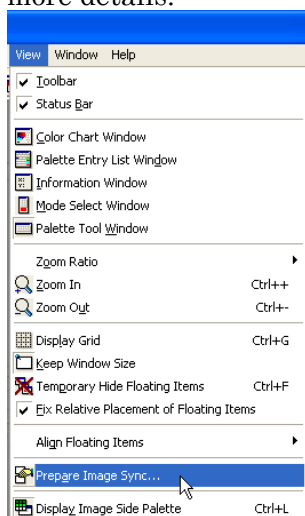
[Sync Image View] function of iImageStudio synchronizes scrolling and zooming operation of two or more image windows. This makes it easy to compare images before and after a process (for example, the original image with Color Reduction results).

On iImageStudio version 4 (or earlier), image windows can be synchronized only if the windows are of the *Same Size* and in *“Parent-Child” Relationship*.

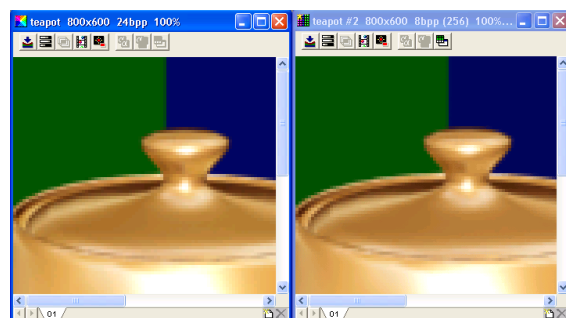
On version 5 and later, however, you can even synchronize image windows of different sizes only if they have a *“Parent-Child” Relationship* (see **Sync Image View** section of the Help documentation for more details).

How to do it (on version 4)

1. Select [Prepare Image Sync] from [View] menu (see Figure 1) to prepare for automatic synchronization of image windows.
2. Select [Tile Horizontally] from [Window] menu to view the images side by side. Be sure to view the image windows in the same size.
3. Try a scroll operation or zoom in/zoom out on one image, and you will see the same effect occurring in the other windows. In this way, you can easily compare the same part of images before and after a process even if you scroll or zoom in on the view to see more details.



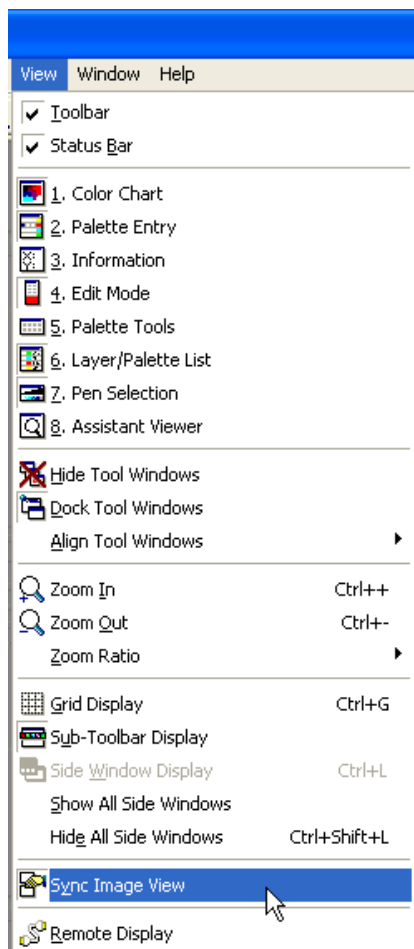
<Figure 1>



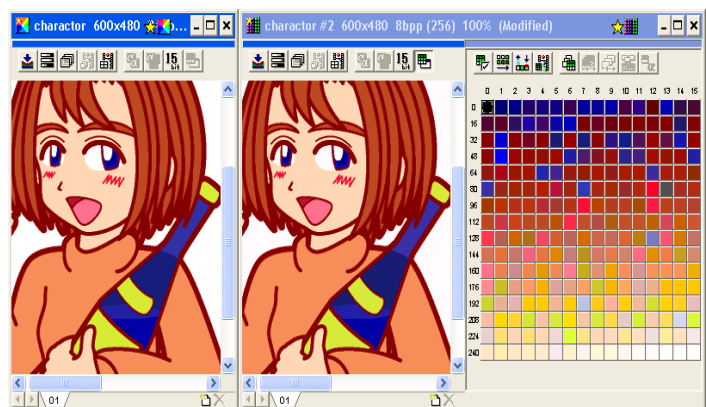
<Figure 2>

How to do it (on version 5)

1. Select [Sync Image View] from [View] menu to turn the option ON (see Figure 3).
2. Select [Tile Horizontally] from [Window] menu to view the images side by side.
3. Try a scroll operation or zoom in/zoom out on one image, and you will see the same effect occurring in the other windows. In this way, you can easily compare the same part of images before and after a process even if you scroll or zoom in on the view to see more details.



<Figure 3>



<Figure 4>

Q22: I'd like to see only the working part of the image enlarged!	Ver.5	○
	Ver.4	—
	Ver.3	—

<Basic Operation: Assistant Viewer>

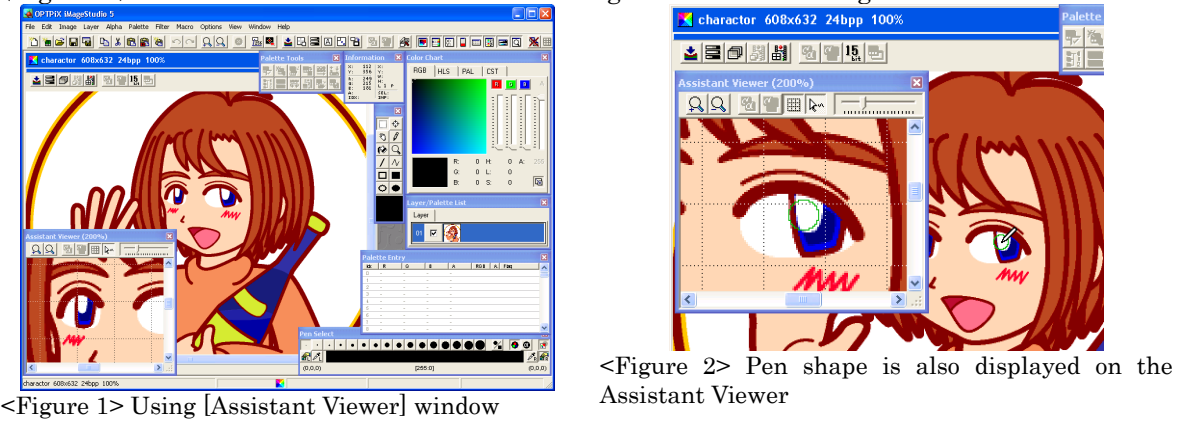
Answer: On version 5, [Assistant Viewer] is available to enlarge only the small part you are working on. You can also see the entire image at the same time.

Assistant Viewer

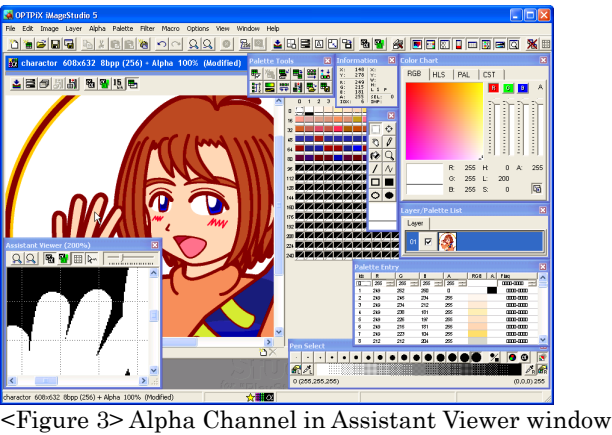
On iImageStudio version 5, you can use new [Assistant Viewer] window to see both the enlarged view and the normal view of the editing image at the same time (see Figure 1).

The [Assistant Viewer] displays your Pen or other drawing tool on the image (see Figure 2). This is useful when you enlarge a part of editing image in Assistant Viewer window to correct dot-sized details while seeing the whole image in Editing Window.

It is also possible to display normal-sized Alpha-blend image in Assistant Viewer window (Figure 3) and to correct some dots of the enlarged detail in Editing Window.



<Figure 2> Pen shape is also displayed on the Assistant Viewer



Q23: I'd like to draw with two-color dither pen!

Ver.5 ○
Ver.4 —
Ver.3 —

<Pen Selection>

Answer: On iMAGEStudio version 5, you can use [Pen Selection] window to create a dither pen color.

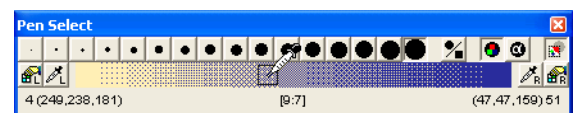
Dither Pen

An Indexed Color Image has limited a variety of colors. You have to invent something looks like another color, when you draw with a different color on such an image. There is an excellent idea called Dither Method, which is to interweave tiny dots of two different colors like a textile.

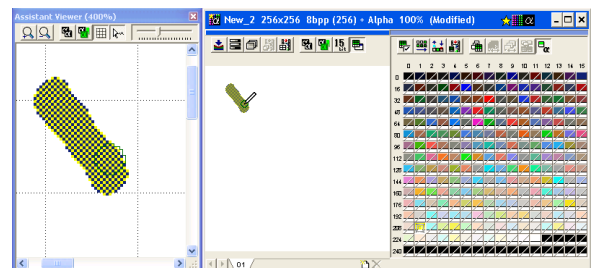
On the [Pen Selection] tool window of iMAGEStudio version 5, you can select two colors from the Palette to make a Dither Pen colors between the two like a color gradation. The gradation is actually made up with dots of two selected colors. As you can choose your favorite mixture from the gradation, it is easy to get a desirable intermediate color for drawing on the Indexed Color Image.

Using [Pen Selection] window for Dither Pen

1. Select a Palette Entry from Palette Editor or Palette Entry Window and click [Put Selected Color on Left side] button of [Pen Selection] window. Select another color and then click [Put Selected Color on Right side] button. In this way, you can register two colors for the gradation bar (see Figure 1).
2. Select a desirable pattern from the gradation bar by clicking its area.
3. You can draw with a Dither Pen of the selected pattern on the image (see Figure 2).



<Figure 1>



<Figure 2>

Note: This feature is dedicated to Indexed Color Images.

Q24: How to use Photoshop layered images in iImageStudio?

Ver.5 ○
Ver.4 ○
Ver.3 ○

<Basic Operation: Load Photoshop Layered Images>

Answer: You can directly load a layered image file (PSD) created with Adobe Photoshop.

Loading Photoshop Layered Image Files

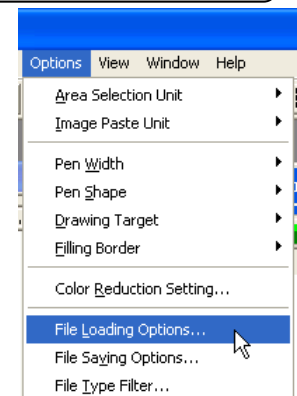
Layered images of Adobe Photoshop present a convenient structure for games production. You can combine any upper layer with a background layer to construct a complex scene.

Although iImageStudio has its own layer structure, it can also load a native Photoshop file with its layer structure. Because layered images can be created with either iImageStudio or Photoshop, your image processing work in iImageStudio will be seamless.

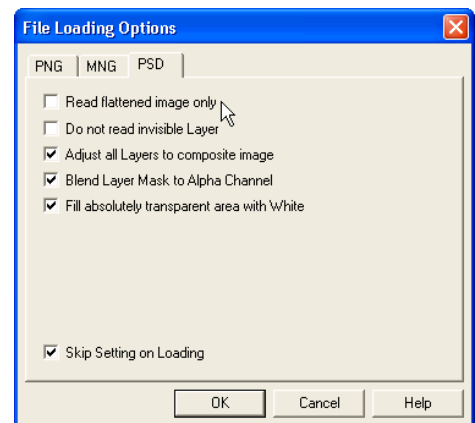
You don't need any special process in Photoshop to pass the data to iImageStudio. All you have to do is to save your images in PSD file format: iImageStudio can load them and even save images in PSD format files that can be loaded by Photoshop.

How to Load Layers

1. Select [File Loading Options] from [Options] menu (Figure 1) to open [File Loading Options] Dialog and click [PSD] Tab.
2. Uncheck [Read flattened image only] option to turn this option OFF, because "flattened image" format does not support Photoshop 2.5 compatible layered images (see Figure 2).
3. Click [OK] button.
4. Now you can load PSD files with their Photoshop layered images.



<Figure 1>



<Figure 2>

Q25: Layers should be more easily identified!

Ver.5	○
Ver.4	△
Ver.3	△

<Basic Operation: Editing Layers>

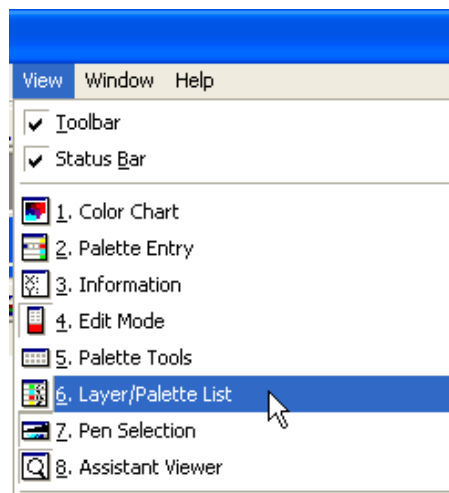
Answer: Yes! On version 5, we added various support for easier operation and management of layers, such as [Layer/Palette List Window]. Please use these new features, as well as conventional Tab operation.

Layer Operation

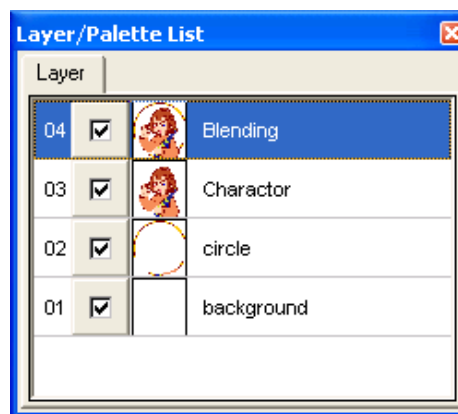
Layers can be managed with Layer Tabs in iMageStudio. On version 5, you can also use Layer List with thumbnail icons.

Layer/Palette List (version 5)

1. Turn ON [Layer/Palette List] by selecting it from [View] menu (Figure 1).
2. Look at the [Layer/Palette List Window] as shown in Figure 2. You see Layer Numbers on the left column, thumbnails in a middle column, and Layer Names (you can freely edit them) on the right column.
3. Make a right click on the list displays the context menu, from which you can select various layer operations, such as [Change Layer Order].



<Figure 1>



<Figure 2>

Q26: How to create a MIPMAP in a simple manner?

Ver.5 ○

Ver.4 ○

Ver.3 ○

<MIPMAP Creation and Saving>

Answer: Using [Create MIPMAP] function of iImageStudio, you can construct a MIPMAP from an original image by simple one-step operation.

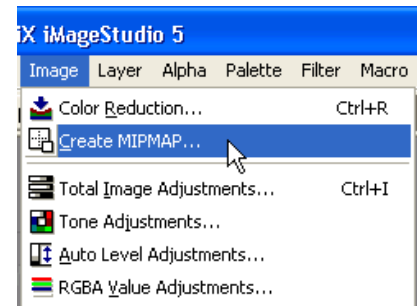
MIPMAP Creation

A MIPMAP is a set of images (textures) with different sizes to be shown alternatively, according to the virtual distance from the view point (the camera). You can create a MIPMAP picture easily with iImageStudio. Since a MIPMAP is a series of images shrinking from the original size in 1/2, 1/4, and so on, you should better use “powers of 2” pixel sizes (64, 128, 256, 512, 1024, and so on) for the original image.

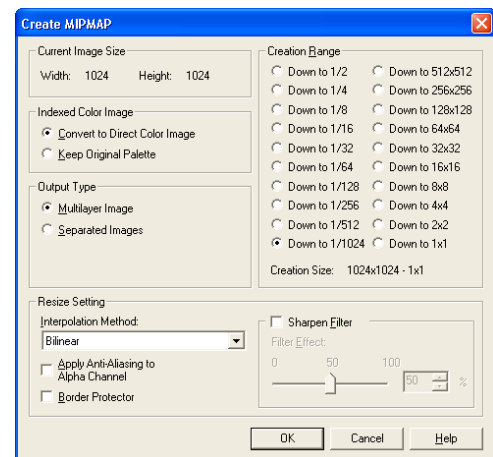
On iImageStudio, you can apply Common Palette Color Reduction to the set of images that you have created as a MIPMAP. This is handy for creating a MIPMAP of Indexed Color Images with minimum quality loss.

How to Create MIPMAP

1. Select an image with “power of 2” pixel sizes in width and height (64, 128, 256, etc.) and then click [Create MIPMAP] item in the [Image] menu (Figure 1).
2. At the [Create MIPMAP] Dialog, select a [Creation Range] by checking one of the candidates automatically calculated based on the width and height of the original image (Figure 2).
3. Select an [Output Type]. When you are going to save the images in a file or apply Color Reduction to them, our choice of recommendation is [Multilayer Image].
4. If you are using iImageStudio version 5, you can control [Resize Setting]. Please refer Q27 for details about “Border Protector” option.
5. Click [OK] button to start the process of MIPMAP creation.



<Figure 1>



<Figure 2>

6. If you want to apply Color Reduction to the newly created MIPMAP picture, use “MIPMAP Color Reduction” function. On version 4, select [MIPMAP Color Reduction] from [Image] menu. On version 5, select [Color Reduction] from [Image] menu, click [Output] Tab of [Color Reduction] Dialog, and check [Color Reduction for MIPMAP] option.
7. When you want to save a multilayer MIPMAP picture into a file, use an image file format that supports MIPMAP or Multi-layer data structure (for example, IS or MNG). On iMageStudio version 5, you can also select other formats with NO support of multilayer (for example, MMP or PNG), and save multi-layer images in separate files (with the same name plus sequential layer numbers added automatically by iMageStudio).

Q27: How to prevent Color Smearing at transparent/opaque border of image enlarged on the target machine?

Ver.5	○
Ver.4	△
Ver.3	—

<Border Protector>

*) Not supported by some varieties of version 4.

Answer: Apply [Border Protector] of iMageStudio to the image with Alpha channel that can be enlarged by interpolation method without Color Smearing.

Border Protector

One of the most challenging problems in image production is to prevent Color Smearing that may occur when the target machine enlarges an image with Alpha channel by an interpolation method. Although the transparent/opaque border of the image is clear on your PC, the colors of transparent and opaque areas may be mixed by the interpolation executed on the target machine and smear the border. This problem is called Color Smearing.

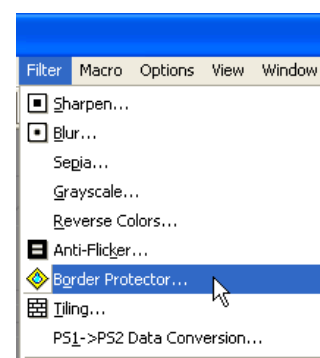
Using Border Protector, which is available on recent versions of iMageStudio, this ugly phenomenon can be prevented. By expanding RGB colors to the transparent side of the transparent/opaque borders, the Border Protector makes your image “smear-proof” because the image enlargement process on the target machine will then interpolate the border of transparent area using the same color as opaque area.

Note that this function is dedicated to Direct Color Images. When you apply Border Protector to an Indexed Color Image, iMageStudio will convert the image to Direct Color and then apply the function. When you use this function in your image production routine, therefore, it would be best to use Border Protector just before you get the final output data by applying Color Reduction.

Border Protector Operation

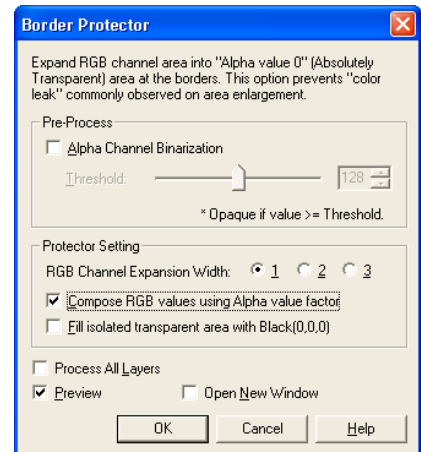
Follow the instructions listed below to protect the transparent/opaque border by replacing neighboring pixel colors of RGB channels:

1. Select [Border Protector] from [Filter] menu (Figure 1).



<Figure 1>

2. When you want the border color to be adjusted depending on the Alpha value (opacity) of opaque area, check [Compose RGB values using Alpha value factor] option (see Figure 2).
3. When you want to fill other transparent part outside the Border Protection area with pure Black color, check another option named [Fill isolated transparent area with Black (0,0,0)].
4. Click [OK] button to execute the process.



<Figure 2>

Q28: I'd like to resize images with no smearing at the border of transparent color area.

Ver.5	○
Ver.4	—
Ver.3	—

<Resize: Area Protector>

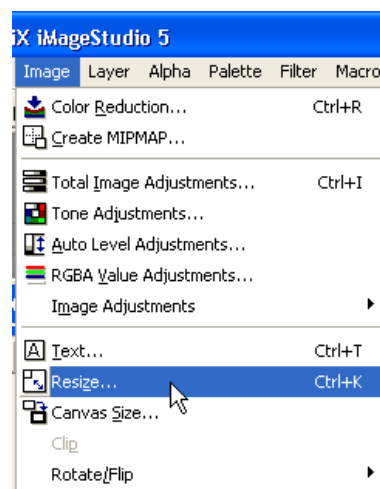
Answer: You can prevent smearing the border of the transparent color area, while resizing the image itself with version 5 and later version.

Area Protector: New Feature for “smear-proof” Resizing

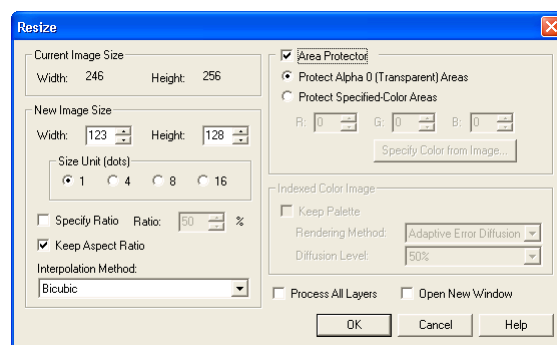
A new feature called “Area Protector” is added to iImageStudio version 5 to enhance its Resize function. By using this feature, you can resize an image including specific areas (of *Alpha value 0* or *specified RGB values*) protected from mixing with other neighboring colors.

Resizing with Area Protector

1. Select [Resize] from [Image] menu (Figure 1).
2. At the [Resize] Dialog, check [Area Protector] option. When you want to protect areas of Alpha value 0, click the button titled [Protect Alpha 0 (Transparent) Areas]. Otherwise, select [Protect Specified-Color Areas] option and specify the color to protect border from specific color.
3. Set other parameters to enlarge or shrink the image.
4. Click OK button to execute the resizing process. Borders of the specified areas will be protected.



<Figure 1>



<Figure 2>

Q29: How to edit layer animation?

Ver.5

○

Ver.4

—

Ver.3

—

< Layer Animation >

Answer: The iMageStudio has [Layer Animation] function. On version 5 and later, you can make a fine tune to the playing environment and Save and Restore the setting.

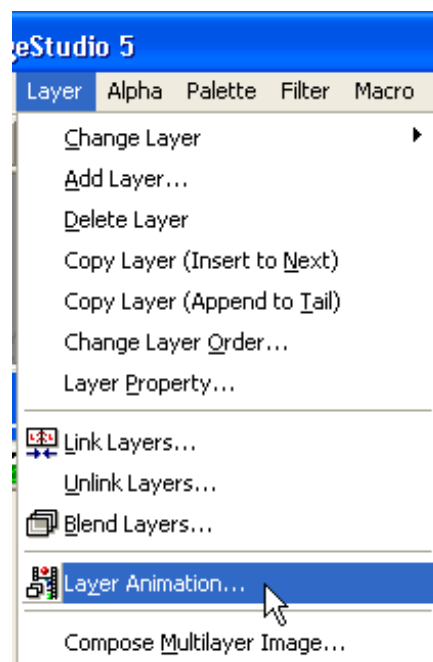
Layer Animation

One way for creating all patterns of character animation is to create each pattern in single layer. In this case, you may want to check the movement of animated character by exchanging layers just as high-speed slide show.

With iMageStudio's Layer Animation function, you can easily check the layer animation without bothering to display each layer image on the target machine or development tool.

Operating Layer Animation

1. Select [Layer Animation] from [Layer] menu (Figure 1).

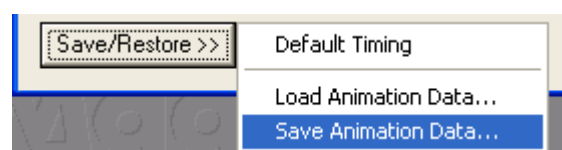
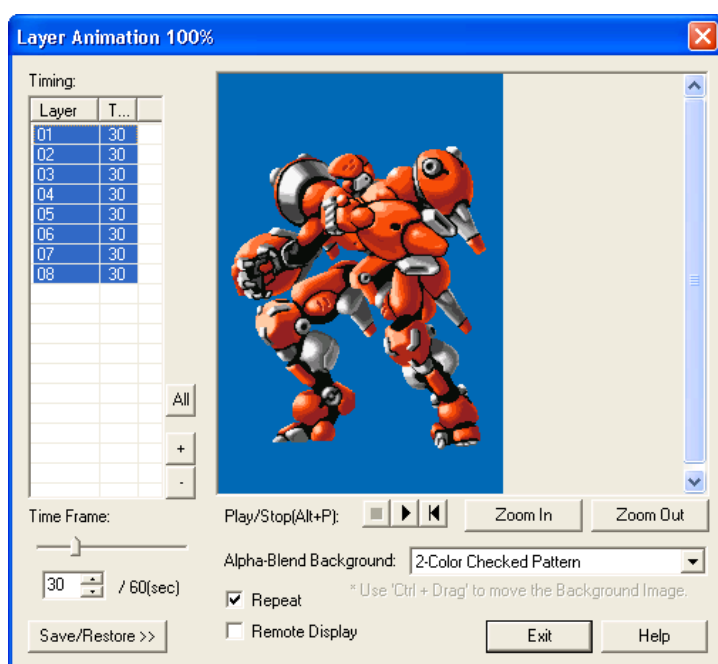


<Figure 1>

2. At the [Layer Animation] Dialog, set up your animation environment (see Figure 2). Play the animation by clicking “Play” button.
3. When you want to save your current setting or restore an old one, click [Save/Restore >>] button. From the pop-up menu, select either [Save Animation Data] or [Load Animation Data] (see Figure 3).

The layer animation data will be saved in the same folder as the image file, with “.isl” file extension.

If you want your layer animation data file automatically restored from the next time on, visit [Environment] Dialog, click [Image Editing] Tab, and turn ON the [Load Animation Data Automatically] option.



<Figure 3>

<Figure 2>

Q30: Can I edit cell animation?

Ver.5	○
Ver.4	—
Ver.3	—

<Cell Animation>

Answer: Cell Animation is supported on iMageStudio version 5.

Cell Animation

Another way to create all patterns of character animation is to lay out all patterns (or cells) in single image. In this case, you may want to check the movement of animated character by cutting out each and every cell in the image and do a high-speed slide show of them.

With iMageStudio's Cell Animation function, you can easily check the cell animation without bothering to display each cell on the target machine or development tool. [Divide into Cells] function is also supported on version 5.

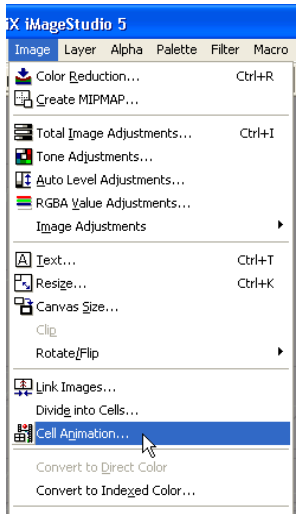
Operating Cell Animation

After you have divided the entire image into cells of the same size, follow the instruction below:

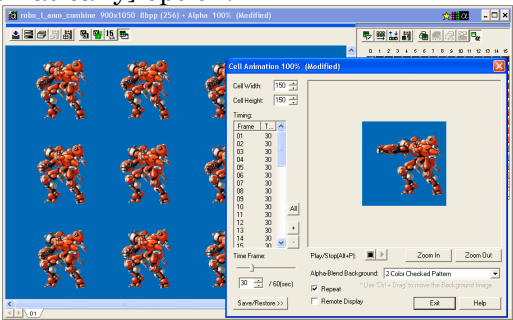
1. Select [Cell Animation] from [Image] menu (Figure 1).
2. At the [Cell Animation] Dialog, set up your animation environment (see Figure 2). Play the animation by clicking "Play" button.
3. When you want to save your current setting or restore an old one, click [Save/Restore >>] button. From the pop-up menu, select either [Save Animation Data] or [Load Animation Data] (see Figure 3).

The cell animation data will be saved in the same folder as the image file, with ".ise" file extension.

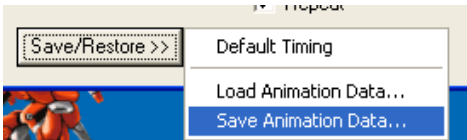
If you want your cell animation data file automatically restored from the next time on, visit [Environment] Dialog, click [Image Editing] Tab, and turn ON the [Load Animation Data Automatically] option.



<Figure 1>



<Figure 2>



<Figure 3>

Q31: How to automate a series of processes?

Ver.5 ○

Ver.4 ○

Ver.3 ○

<Creating a Macro File (Batch File)>

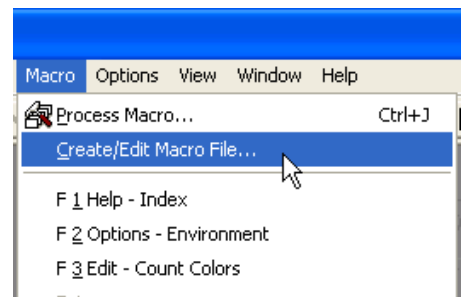
Answer: Create a Macro (Batch) file and then execute it.

Macro File (Batch File)

When you want to execute multiple image processes one after another, you can automate the sequence by creating a Macro file. The target of Macro processes can be (1) image files in a specific folder, (2) images you import to iImageStudio by drag and drop operation, or (3) currently editing image in iImageStudio.

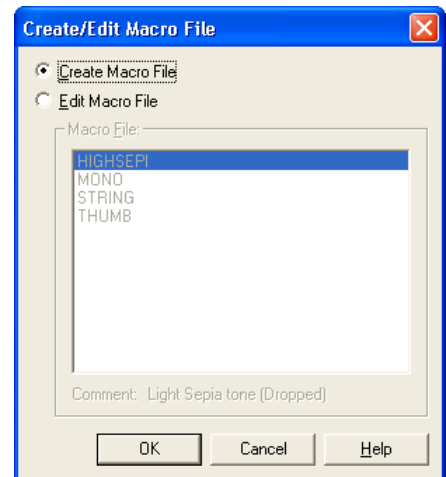
Creating a Macro File (Batch File)

1. Select [Create/Edit Macro File] from [Macro] menu (Figure 1).



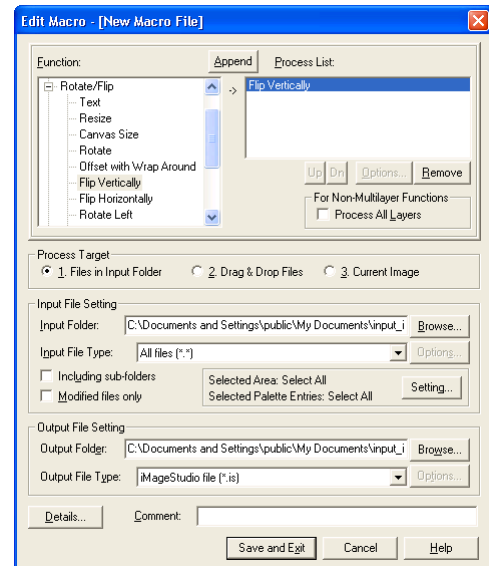
<Figure 1>

2. Click [Create Macro] button (see Figure 2).

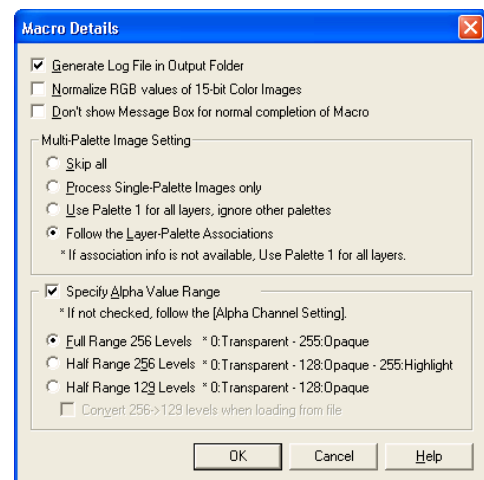


<Figure 2>

3. You will see the [Edit Macro] Dialog as shown in Figure 3.
4. Select several functions to add to the [Process List] as you need. If you select multiple functions, they will be listed in the selected order by which the functions will be applied to an image as a chain. You can change the order of “function chain” by selecting a function in the list and then clicking UP or DOWN arrow button.
5. A function is selected (highlighted), when it is newly added to, or clicked in the [Process List]. When a function is selected, you can set up its options by clicking [Options] button under the list.
6. Next, select a [Process Target]. When you select [Files in Input Folder], you *must* specify an [Input Folder] *and* an [Output Folder]. For [Drag & Drop Files], specify an [Output Folder]. Or you don't have to specify a folder if selecting [Current Image].
7. You may want to click [Details] button to specify options about Alpha value range and multi-palette details (see Figure 4).
8. Click [Save and Exit] button to save the data in a Macro file.



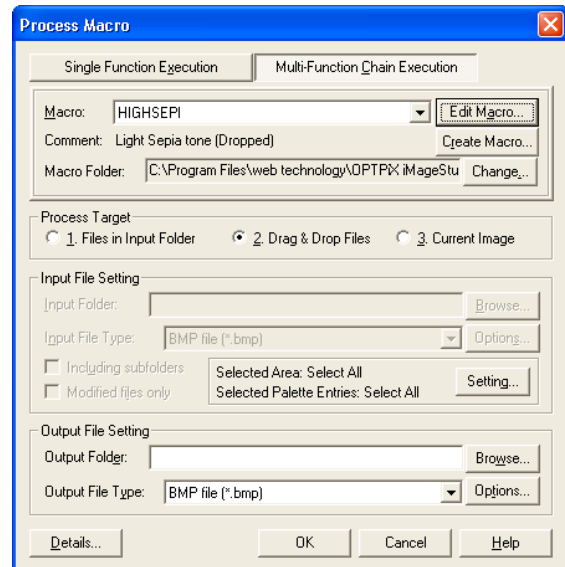
<Figure 3>



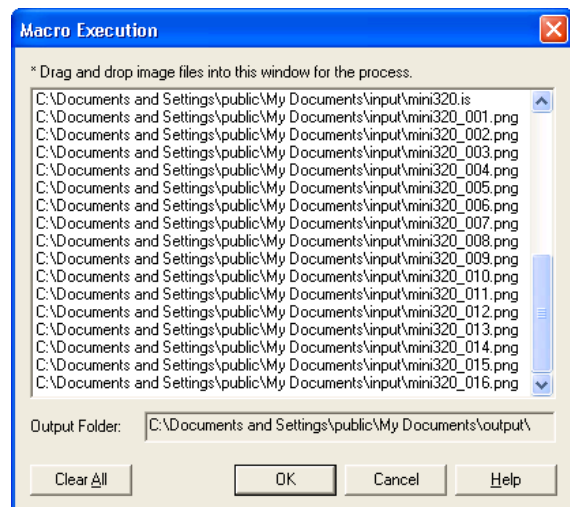
<Figure 4>

Executing a Macro File (Batch File)

1. Select [Process Macro] from [Macro] menu. This will open [Process Macro] Dialog as shown in Figure 5. If you are a user of iImageStudio version 4 or earlier, please read “Process Macro” as “Macro Processing”.
2. Click [Multi-Function Chain Execution] button (or, on version 4 or earlier, click [User Macro] button).
3. From the list of Macro file names, select a Macro that you want to execute.
4. You can also change Process Target and/or Input/Output folder if you want to: being a temporally option, this would not be saved to the Macro file.
5. Click [OK] button to start the Macro process.
6. If you have chosen [Drag & Drop Files] as [Process Target], a window appears for you to drop the targets (Figure 6). Specify your target image files by dragging their icons from Windows Explorer (or similar application) and dropping them to the window.



<Figure 5>



<Figure 6>

Q32: How can a Macro process (Batch process) only a specific image area or specific palette entries?

Ver.5	○
Ver.4	—
Ver.3	—

< Selected Area/Selected Palette Entries>

Answer: At the [Process Macro] Dialog, you can specify [Selected Area] or [Selected Palette Entries] of input file images as the target of Macro processes.

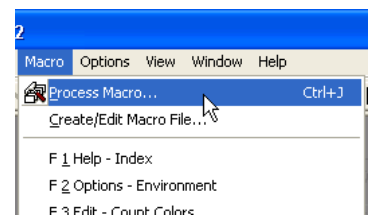
Specifying an Area or Palette Entries

On iImageStudio version 5, the same Macro process can be applied to a specific area of multiple images or specific part of various Palettes of multiple image files.

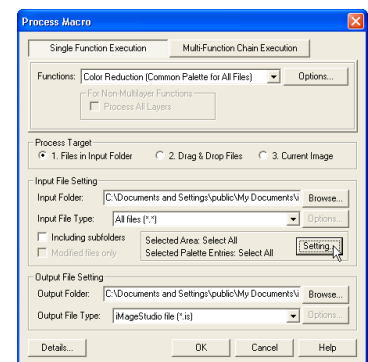
This is how you can automate subtle modification of image part or some indexed colors in massive image files: a good example of batch processing.

How to specify Image Area or Palette Entries

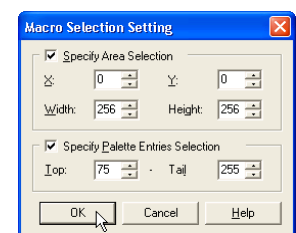
1. Select [Process Macro] from [Macro] menu (Figure 1).
2. At the [Process Macro] Dialog, find a small pane for [Selected Area] and [Selected Palette Entries] nested in [Input File Setting] pane (see Figure 2). Click [Setting] button in the pane.
3. At the [Macro Selection Setting] Dialog (Figure 3), 1) check [Specify Area Selection], 2) set the image area (or check [Specify Palette Entries Selection], 3) set the range of Palette Entries), and then 4) click [OK] button.
4. At the “Options” Dialog for each function of your Macro, check [Selected Area Only] option (or [Selected Palette Entries Only] option) so that each process could be applied to the selection you specified in Step 3.



<Figure 1>



<Figure 2>



<Figure 3>

Q33: How can I hide all tool windows while I am editing some images?

Ver.5	○
Ver.4	○
Ver.3	○

<Basic Operation: [Hide Tool Windows]>

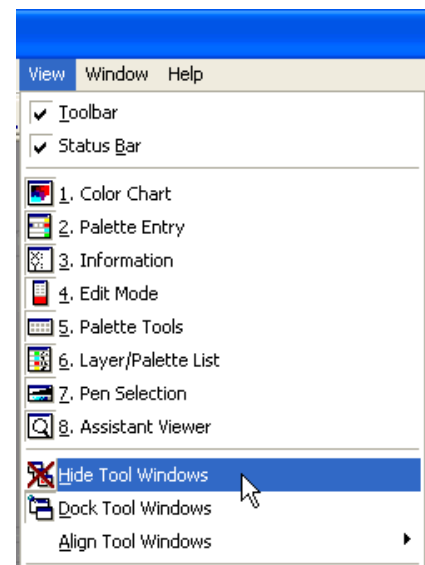
Answer: You can temporarily hide all tool windows at a time by clicking [Hide Tool Windows] menu item. Click it again to show the hidden tool windows.

Tool Windows and their Placement

You can arrange the placement of iMageStudio Tool Windows by various commands in [View] menu. Among others, [Hide Tool Windows] is a handy command to hide all tool windows. Firstly, it hides them all instantly. Secondly, every hidden Tool Windows can be recovered where they were by clicking the same menu item again.

How to Hide or Show Tool Windows

1. Select [Hide Tool Windows] from [View] menu (Figure 1). The keyboard shortcut for this operation is to press [Ctrl] and [F] key simultaneously.
2. When you want the hidden windows to be shown again, select [Hide Tool Windows] menu item once more, or use the same keyboard shortcut, [Ctrl] + [F].



<Figure 1>

Q34: Can I quickly restore editing windows and their contents to resume the last session?

Ver.5	○
Ver.4	—
Ver.3	—

<Restore Workplace>

Answer: Yes, it is possible on iMageStudio version 5. Using “Restore Workplace” feature at the starting time, iMageStudio will reopen every image file at the end of the last session.

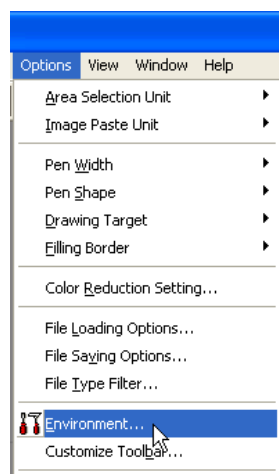
Restoring Your Workplace

iMageStudio version 5 can remember all open images saved at the end of a session (that is, when you exit the program) and open those images again at the start of your next session (the next time you start the iMageStudio program). This helpful feature is called Restore Workplace. Note that if you move or delete the saved image file, iMageStudio will not be able to restore it. But iMageStudio will load the new image or the image modified with other tool, if it is saved in the same file.

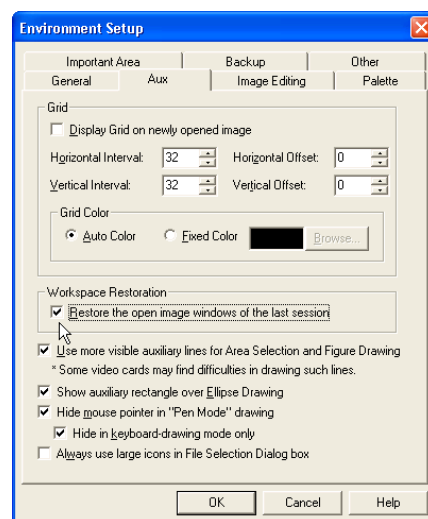
If you did *not* save newly created image at the end of the session, there will be no file for that image. In this case, iMageStudio cannot restore the image.

How to teach iMageStudio to Restore Your Workplace

1. Select [Environment] from [Options] menu (Figure 1).
2. Click [Aux] Tab of the [Environment] Dialog (Figure 2)
3. Check [Restore the open image windows of the last session] option.
4. Click [OK] button.



<Figure 1>



<Figure 2>

Q35: How to assign a function to a shortcut key?

Ver.5	○
Ver.4	△
Ver.3	△

<Key Assignment>

Answer: Use [Key Assignment] function of iImageStudio.

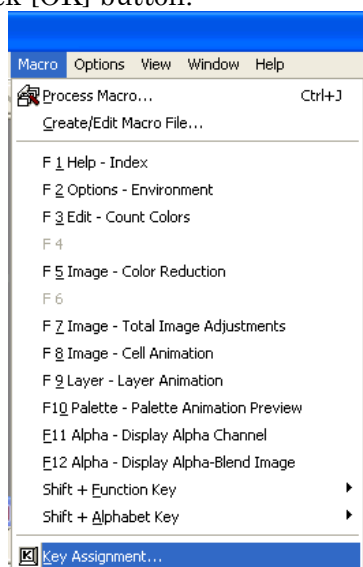
Custom Keyboard Shortcut

On iImageStudio, it is possible to assign your favorite function to a keyboard shortcut. You can also delete or modify existing function of a shortcut. There are 24 of these “programmable” keys on iImageStudio version 4 or earlier, namely [F1] to [F12] and [Shift]+[F1] to [Shift]+[F12]. On iImageStudio version 5, you can also customize 26 different combinations ([Shift]+[a] to [Shift]+[z]) as well as the function keys and [Shift] function keys.

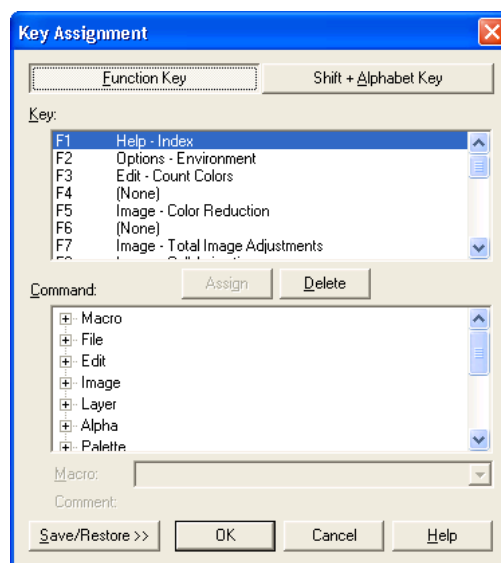
On version 5, it is also possible to save your customized keyboard shortcuts to a file and load the file into an iImageStudio, which might be installed to another PC you have never used.

Key Assignment Operation

1. Select [Key Assignment] from [Macro] menu (Figure 1).
2. At the [Key Assignment] Dialog, set up the shortcut assignments. You can assign an iImageStudio function or execution of a Macro file you have created before (see Figure 2).
3. On version 5, you can save or load Key Assignment Data by clicking [Save/Restore >>] button. From the pop-up menu, select [Save Key Setting] or [Load Key Setting].
4. Click [OK] button.



<Figure 1>



<Figure 2>

Q36: Can I quickly see the Help about the window I am working at?	Ver.5	○
	Ver.4	△
	Ver.3	△

<Quick Access to the Help in Context>

Answer: Click [Help] button in the Dialog or select [Help] from the Context Menu.

Quick Access to the Help in Context

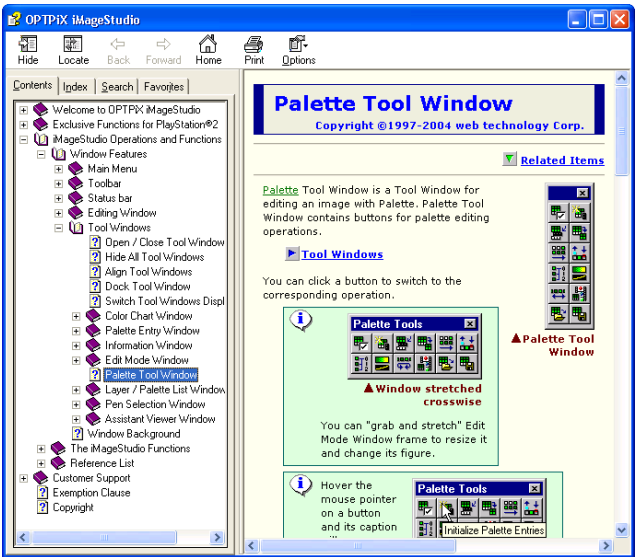
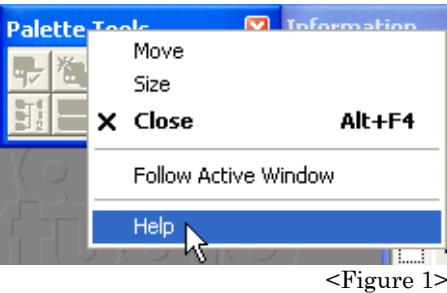
When you want to know something about an iImageStudio Dialog box, click its [Help] button. This will open a new window displaying a help document about the Dialog.

On iImageStudio version 5, you can even access the help document of *a window without a [Help] button* by clicking your right mouse button on the window to display its context menu and then clicking the [Help] item at the bottom of the menu.

How to Display the Help for a Tool Window

For instance, let’s see how to read the Help document for Palette Tool Window:

- 1. Make a right click on the window to display the context menu (see Figure 1).
- 2. Select [Help] from the context menu to display the Help document for Palette Tool Window (Figure 2).



Q37: How can iMageStudio support our own image format we are developing?

Ver.5	<input type="radio"/>
Ver.4	<input type="radio"/>
Ver.3	<input type="radio"/>

<Using the SDK>

Answer: It is possible by creating your own Plugin module.

Using a Plugin

You can extend the functionality of iMageStudio by Plugin modules. With iMageStudio Plugin SDK, you can easily create your own Plugin using simple and user-friendly APIs. The SDK supports creation of Plugins of the following five different types:

1. File Loading Plugin
2. File Saving Plugin
3. Filter Plugin
4. Import Plugin
5. Export Plugin

By creating a Plugin, your iMageStudio will be able to read or write your own file format or apply your filter to images.

The new Plugin Specification for iMageStudio version 5 is substantially expanded by supporting Layer Names, Palette Names, Layer Entry Flag, Palette Entry Flag, User Data and input/output of other information.

How to get iMageStudio Plugin SDK

Registered users of iMageStudio can freely download the Plugin Specification and the SDK from our User Support Home Page in our web site. Please see the documentation file installed in your PC.

Q38: Can I use iImageStudio's Color Reduction function in Adobe Photoshop?	Ver.5	○
	Ver.4	○
	Ver.3	○

<Color Reduction Plugin module for Photoshop>

Answer: Yes, you can use the Color Reduction engine of iImageStudio on Adobe Photoshop application by using “Color Reduction Plugin module for Photoshop.”

Color Reduction Plugin Module

The Color Reduction plugin module for Photoshop lets you utilize iImageStudio's Color Reduction engine while you are using Adobe Photoshop.

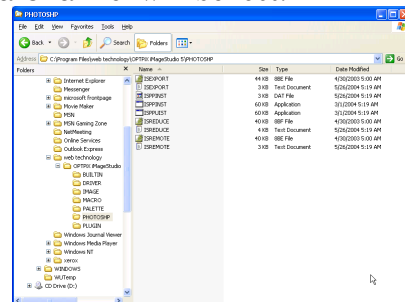
How to Install and Use Color Reduction Plugin Module

1. Make sure that you are running neither Photoshop nor iImageStudio application. Find the Plugin Module for Photoshop named **isreduce.8bf** (or, for iImageStudio version 3, **islink.8bf**) in the folder you installed your copy of iImageStudio (see Figure 1; you can also find the original copy in the Installation CD in the package) and copy the file to the “Plug-Ins” subfolder of the Photoshop folder.
2. Start iImageStudio and Photoshop applications. Since you are going to use only the Color Reduction Engine of iImageStudio, the iImageStudio window can be minimized.
3. While an image in RGB mode is selected in Photoshop, select [Color Reduction]-[Color Reduction with OPTPiX iImageStudio] from Photoshop's [Filter] menu. *Note that other than RGB mode are not supported by the plugin module. You may have to convert the original image to RGB mode before applying iImageStudio Color Reduction.*
4. You will see the familiar Color Reduction Dialog box of iImageStudio in Photoshop window. Do the usual setup for Color Reduction and click [OK] button to apply Color Reduction to the image.
5. You can now convert the image after Color Reduction to Indexed Color Mode in Photoshop.

Note that the image after Color Reduction is still in full-color RGB mode according to the specification of Photoshop Plugin Interface. Converting the image after Color Reduction to Indexed Color Mode will be the last step for Color Reduction in Photoshop.

You can register the above mentioned operation (from Color Reduction to Mode Conversion) with an action of Photoshop for one-touch key operation.

Please Note: If you apply iImageStudio Color Reduction to an image with Alpha Channel using Photoshop Plugin Module, the data of Alpha Channel will be lost.



<Figure 1>

Q39: How to quickly pass image data from Photoshop to iImageStudio?

Ver.5

Ver.4

Ver.3

○

○

○

<Photoshop Export Plugin Module>

Answer: Use “Export Plugin Module for Photoshop.”

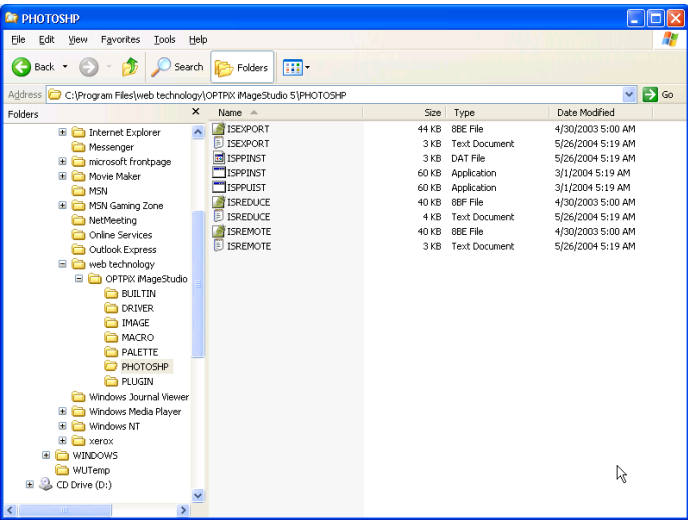
Export Plugin Module

Since Adobe Photoshop is an industry-standard 2-D CG software tool, Photoshop and iImageStudio often need to cooperate. To match the needs, iImageStudio package includes a plugin module for exporting Photoshop image data directly to iImageStudio. Without bothering to save and load image file, you can open the data you are editing with Photoshop in iImageStudio by one-click operation.

How to Install and Use Export Plugin Module

1. Make sure that you are running neither Photoshop nor iImageStudio application. Find the Plugin Module for Photoshop named **isexport.8be** in the folder you installed your copy of iImageStudio (see Figure 1; you can also find the original copy in the Installation CD in the package) and copy the file to the “Plug-Ins” subfolder of the Photoshop folder.
 2. Start Photoshop application.
 3. While an image is selected in Photoshop, select [Export]-[Export to OPTPiX iImageStudio] from Photoshop’s [File] menu.
 4. You will see the same image in iImageStudio. When the iImageStudio application is not running, it will be automatically launched.

This is the quick way to pass Photoshop image data to iImageStudio.



<Figure 1>

Ver.5	○
Ver.4	○
Ver.3	—

Answer: Yes, you can output the image on Photoshop to a remote target by using “Remote Display Plugin Module for Photoshop.”

Photoshop Remote Display Plugin Module

Conventionally, you would have to save the image into a file and then open it in the development tool to check the actual display of images you create in Photoshop and other third-party software tools. In a PC environment where iImageStudio is installed, however, you can use Photoshop Remote Display Plugin Module to utilize iImageStudio's Remote Display function directly from Photoshop application. This module realizes an image production environment as if image data is exported to a remote development tool directly from Photoshop.

How to Install and Use Remote Display Plugin Module

- Please Note: The image will be displayed on the remote machine only when you export the data from Photoshop. The plugin module does not always display images you are editing in Photoshop. Registering the procedure with a Photoshop *action* would be helpful.



Q41: I'd like to use iMageStudio in Japanese language environment!

Ver.5	○
Ver.4	○
Ver.3	—

<Japanese version>

Answer: We are shipping two language editions of iMageStudio: English and Japanese.

About the Japanese Edition

Two language editions of the same version iMageStudio is functionally identical excluding where the software depends on the language. It means that you can work with Japanese and English versions using the same iMageStudio format files.

* Recommend running Japanese edition of iMageStudio for Windows OS Japanese.

Please consult the following page for more details about the Japanese version iMageStudio.

<http://www.webtech.co.jp/> (in Japanese) Or inquire of us in Japanese or English via e-mail: iMageStudio@webtech.co.jp