NitroPaint User Guide

2.8.3.1

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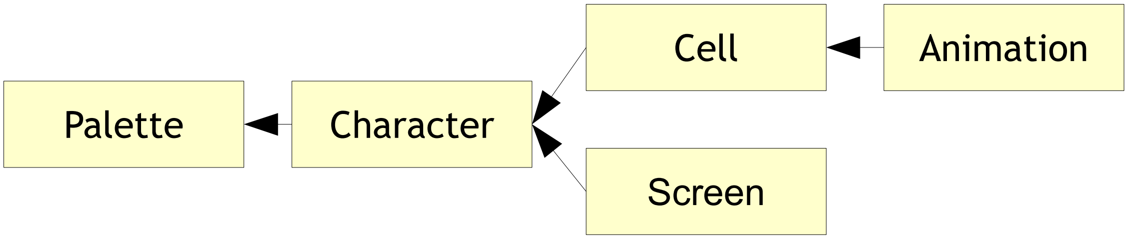
1. Introduction

NitroPaint is a program designed to make creating and editing graphics for the Nintendo DS easier. It offers the ability to edit palettes, character graphics, screen data, cells, animations, and textures.

NitroPaint uses a multiple document interface to keep multiple files open at a time. This allows a palette file and a character graphics file to be open at the same time, for instance.

By default, NitroPaint is also a single-instance program. When a file set to open with NitroPaint is opened, it will open the file in an existing window if one exists. This functionality can be turned off in the View menu.

Many types of files interact with other types of files. Character graphics require an open palette to be able to render color, since this information is not stored. Both screen and cell files require an open character graphics file to be able to render. Animation files require an open cell file.

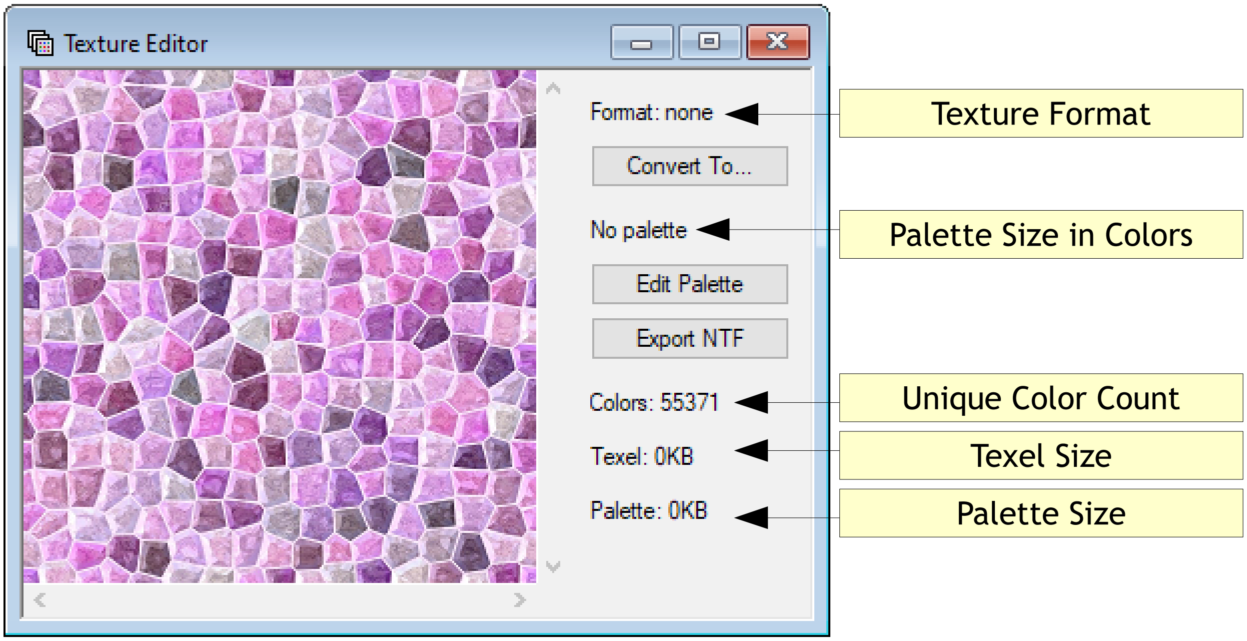


One of NitroPaint's main features is its ability to open files of various formats. The program and this document refer to files by their type, rather than their extension. For the large part, these files differ mainly in the amount of extra information they store.

To open a file, just drag file onto the main window, or use the File->Open menu to select the file. When a palette or character graphics are opened, an already open file of the same type is closed, if one is open. NitroPaint can only have one of these type of files open at a time. All other files, however, allow any number to be open at once.

2. Creating Textures

NitroPaint allows creating textures from common image file formats like PNG and JPEG. To create a texture, either select File->New->New Texture, or drag an image file onto the main window and select "Create Texture."



Format: none

No palette

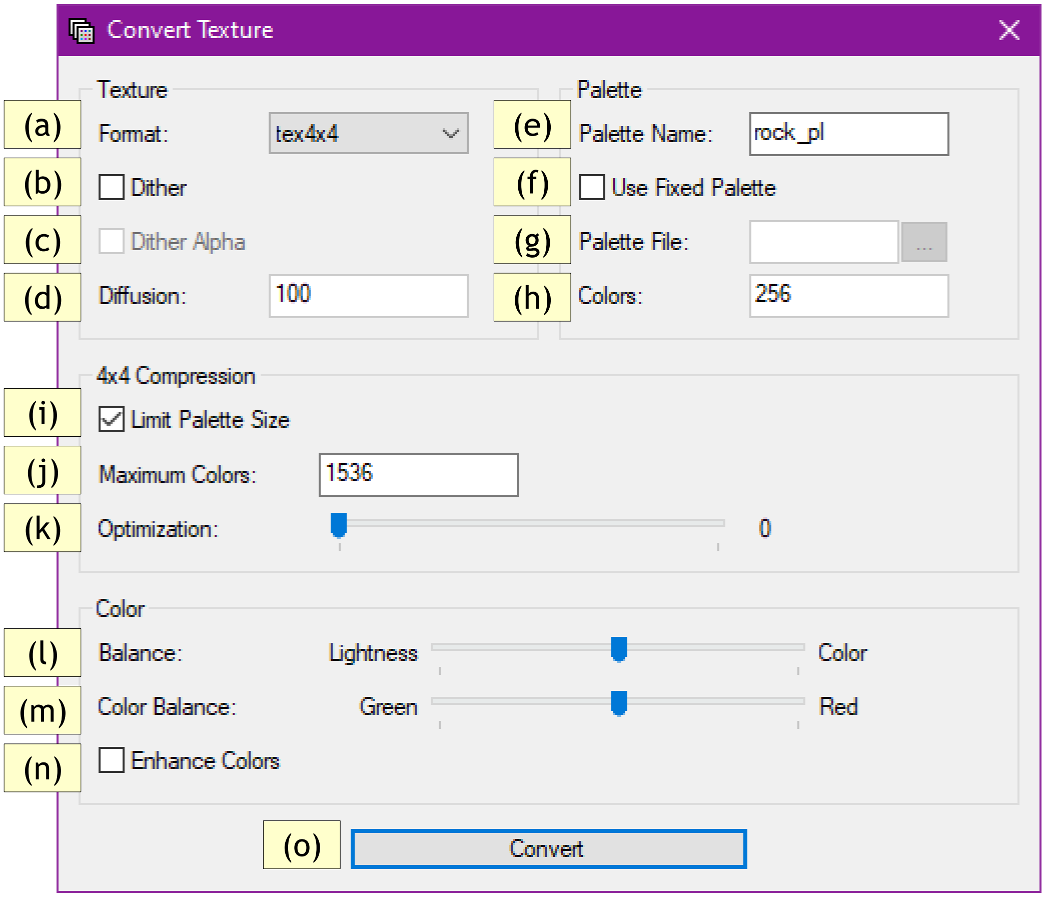
Colors: 55371

Texel: 0KB

Palette: 0KB

With the texture editor open, the first thing to do is convert the texture to a DS texture format. Click the "Convert To" button. This will open a conversion settings dialog. NitroPaint tries to choose the best settings for a texture by default, but it may not always accurately reflect your goals or intent.

In some cases, a 4x4 texture may be inappropriate despite NitroPaint selecting it by default. One such case would be a texture for a particle in a SPA file.


Convert Texture

Texture

Format: tex4x4

□ Dither

□ Dither Alpha

Diffusion: 100

Palette

Palette Name: rock_pl

□ Use Fixed Palette

Palette File:

Colors: 256

4x4 Compression

☑ Limit Palette Size

Maximum Colors: 1536

Optimization: 0

Color

Balance: Lightness — Color

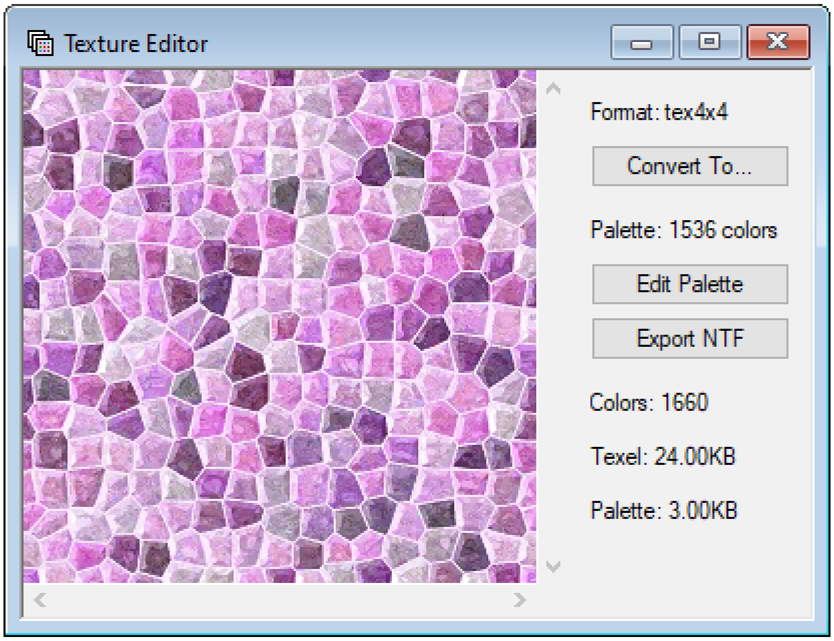
Color Balance: Green — Red

□ Enhance Colors

An outline of the options in the dialog follows:

a) The texture format. This can be any of the DS's hardware supported texture formats.
b) Enables dithering.
c) Level of dithering in the alpha channel (only applicable for a3i5 and a5i3 textures).
d) Level of dithering in image color.
e) Name of palette (16 characters max). This palette name is not used by the hardware, but is used when outputting NNS TGA and is consumed by NITRO-System tools and code.
f) If checked, uses a palette from a file instead of generating one.
g) If using Fixed Palette, this specifies the path to the palette file to use.
h) Number of colors to generate for non-compressed textures (only applicable if not using Fixed Palette and not generating a direct color texture).
i) Enabling this checkbox will limit the generated palette size for a 4x4 texture.
j) The maximum size of the palette to generate for a 4x4 texture (only applicable if Limit Palette Size is checked).
k) The degree to which the texture conversion will try to compress the texture palette for a 4x4 texture (only applicable if Use Fixed Palette is not checked).
l) The degree to which lightness is prioritized relative to color information. Dragging this slider towards lightness will result in more effort going to preserve image lightness, while dragging it to color preserves hues more.
m) The degree to which the conversion will favor reds or greens.
n) Favor widely-used colors more. This may impact the quality of gradients.
o) Button to finalize settings and initiate the conversion.

On clicking the Convert button, the texture will be converted with the given settings. When done, the texture editor window will update to reflect the newly converted texture.



Format: tex4x4

Palette: 1536 colors

Colors: 1660

Texel: 24.00KB

Palette: 3.00KB

The texture editor window will now show the texture format, palette color count, texel size, and palette size. If the format is direct, a palette will not be created.

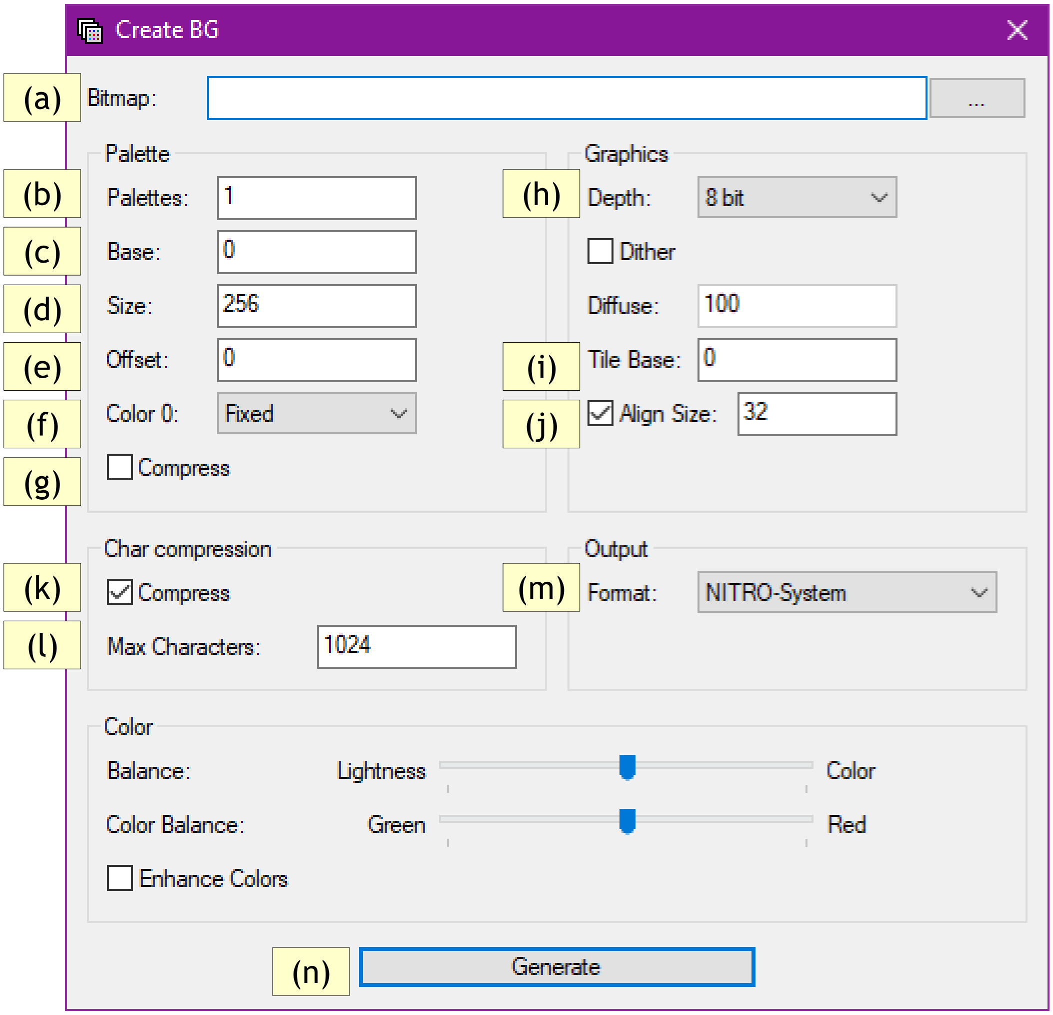
If any adjustments need to be made, you can select a tile of the texture by clicking it, and then edit its pixels. If adjustments need to be made to the texture palette, click “Edit Palette” and a palette editor window for the texture will appear.

Finally, when you are ready to save the texture, either go to File->Save. This will save the texture file as an NNS TGA. Beware that though normal image editing software may be able to open this output file, any edits they make to it will strip the NNS data, thus rendering it a normal TGA that will need to be reconverted.

If you want to save the texture as a raw binary texture data, click Export NTF and it will prompt to save texel, index, and palette data separately, each if applicable.

3. Generating Backgrounds

NitroPaint offers a powerful interface for creating background images for the DS. To create a background, either choose File->New->New Background, or drag and drop an image onto the window and select “Generate Background.”



Create BG

Bitmap:

Palette

Palettes: 1

Base: 0

Size: 256

Offset: 0

Color 0: Fixed

□ Compress

Graphics

Depth: 8 bit

□ Dither

Diffuse: 100

Tile Base: 0

☑ Align Size: 32

Char compression

☑ Compress

Max Characters: 1024

Output

Format: NITRO-System

Color

Balance: Lightness — Color

Color Balance: Green — Red

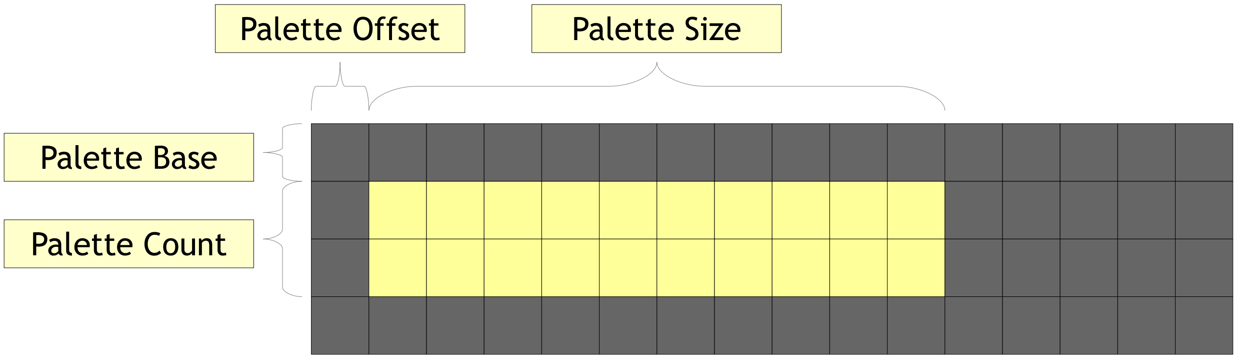
□ Enhance Colors

The Color group and dither settings will be familiar from the texture conversion dialog. The rest will be outlined here.

a) The source image file name.
b) Number of palettes to generate.
c) Index of first palette to generate.
d) Number of colors in each palette to generate.
e) Offset within each palette to start writing.
f) If the palette generator would write to color entry 0 (which is reserved for transparency), this determines how it will write that color.
g) Exclude palettes that were unused from the output palette file.
h) Bit depth of generated graphics. 8 bit depth may use 256-color palettes, while 4 bit depth may only use 16-color palettes.
i) If the graphics are to be loaded at an offset within the graphics slot in VRAM, the offset in characters is specified here.

j) Optionally pad the output graphics data so that the character count is a multiple of some amount. By default it will pad to 32 for ease of viewing.
k) If enabled, the background generator will combine identical tiles to save graphics space, utilizing the horizontal and vertical flip properties of background tiles.
l) The maximum character count to output. Tiles will be merged until this amount remain. This setting is only valid if Character Compression is enabled.
m) The output file format of generated files.
n) Button to initiate the background generation process.

The palette specifications are a lot to consider and are important to make sure that the graphics get displayed correctly. Below is a visualization of what these fields mean.

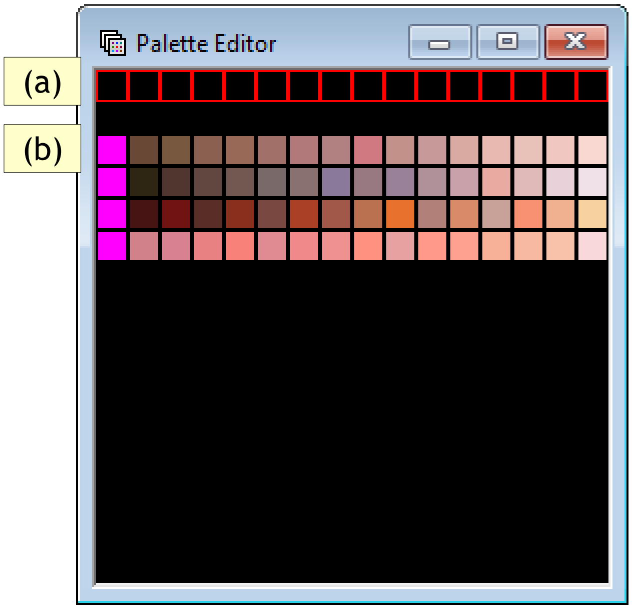


The same principle applies for 8-bit graphics, except that the hardware palette size is 256 colors instead of 16.

Once the conversion finishes, the palette, graphics, and screen will be opened. The final assembled background will be in the screen window. You can save all files at once by going to File->Save All. The next sections of this document will go over the various ways to edit these kinds of files.

4. Editing Palettes

NitroPaint's palette editor has a relatively basic user interface. Open a palette by using File->Open or dragging a palette file onto the main window. An overview of the palette editor's interface follows.

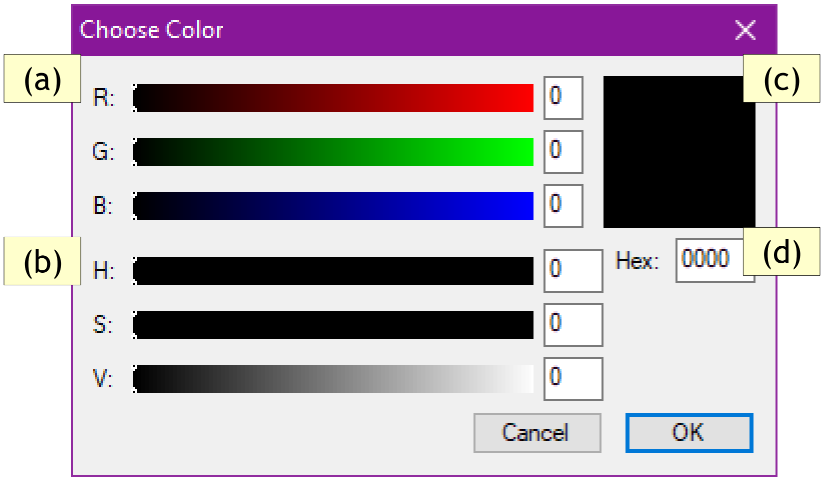


In the diagram:

a) The red-outlined palette entries highlight the currently selected palette being used in the character graphics editor if one is open. If a cell editor is open, its currently selected palette will also be outlined in green.

b) The used palette colors in this palette file.

You can edit a palette by clicking an individual color entry to open a color chooser dialog. Whether it will use the default Windows color chooser or NitroPaint's 15-bit color chooser is controlled through the View menu with the “Use 15bpp Color Chooser” button. The Windows color chooser offers a familiar user interface, but the drawback is that since the DS uses 5-bit color channels, the color won't be saved exactly as it is input. The 15bpp color chooser uses 5-bit color channels, so it does not need to be converted. This allows it to give a more accurate representation of real DS colors.



The elements of the 15-bit color chooser are:

a) RGB color selection. Values range from 0-31, rather than 0-255 like in the Windows color chooser.
b) HSV color selection. Hue ranges from 0-359, saturation and value from 0-100.
c) Color preview.
d) Color hex code. Ranges from 0000-7FFF.

Color entries can also be rearranged by dragging a color entry to another position to swap two color entries. You can also hold the Ctrl key while dragging to swap whole rows. If you have character graphics open too, you can hold Shift while swapping colors and the graphics will be updated to retain the same colors. If a screen file is also open, hold Shift while swapping palette rows to update the screen data to keep the same palettes. Note that then these files will need to be saved as well.

NitroPaint offers some basic color transformations for palettes. Right click a palette row and select Invert Colors to invert the colors of that palette row. Select Make Grayscale to turn that row into shades of gray.

You can copy a palette row by right clicking it and selecting Copy. You can paste to another row by right clicking and selecting Paste. NitroPaint also allows you to copy and paste palettes with first-party graphics editing software.

If need be, NitroPaint has the ability to sort palette colors by a few rules. They can be sorted by lightness, which is the default behavior of the palette generator. They can also be sorted by hue, arranging reds first to purples last. The other sorting method, Neuro, arranges colors to minimize the total distance between adjacent colors across the palette, grouping like colors together.

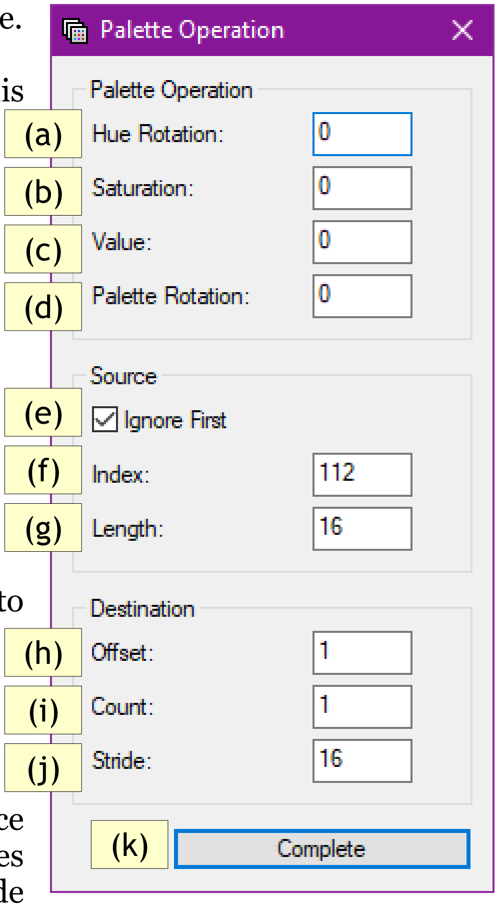
The palette can be exported to an image file by going to File->Export. The output image can be edited in image editing software and re-imported by right clicking a starting color entry, then selecting Import. The image colors will be written starting at that position.

In some cases, you may want to create animations through switching palettes. NitroPaint offers some functionality to help create these palette changes. Right click a palette row and select Animate Palette.

The fields in the Palette Operation window are outlined here.

a) Hue rotation. For each generated transformation, this amount is added to the hue of each successive palette.
b) Amount to add to the saturation of each transformation.
c) Amount to add to the value of each transformation.
d) Cycle the palette colors by this amount for each transformation.
e) Whether or not to ignore the first color in the palette. This color will be kept the same for each generated transform if checked.
f) The index of the first color in the source palette.
g) The length of the source palette.
h) The number of palettes after the source palette to write the transformed palettes.
i) The number of transformations to generate.
j) The space between each generated transformation.
k) Complete the transformation.

While the palette operation window is open, the source palette is highlighted in yellow, and the destination palettes are highlighted with green dotted lines. This lets you decide what parameters are right before you finalize the transform.



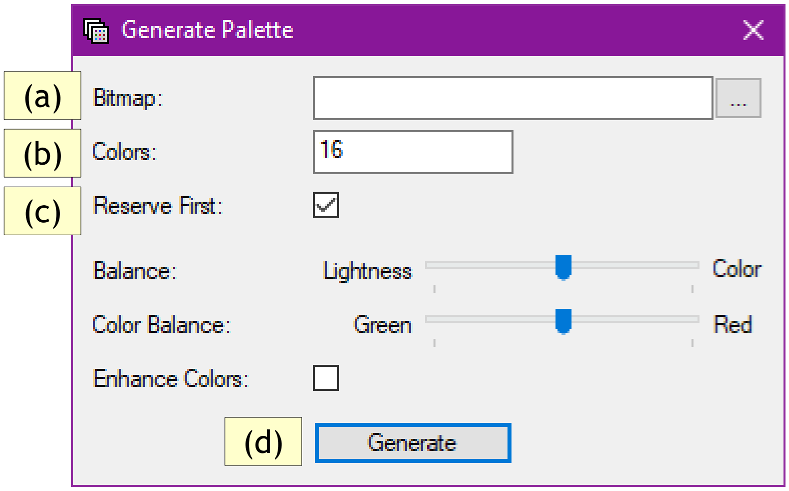
Palette Operation

Palette Operation
Hue Rotation: 0
Saturation: 0
Value: 0
Palette Rotation: 0

Source
☑ Ignore First
Index: 112
Length: 16

Destination
Offset: 1
Count: 1
Stride: 16

NitroPaint also allows you to generate a palette from an image file. To do this, right click the first entry to generate on, then select Create.



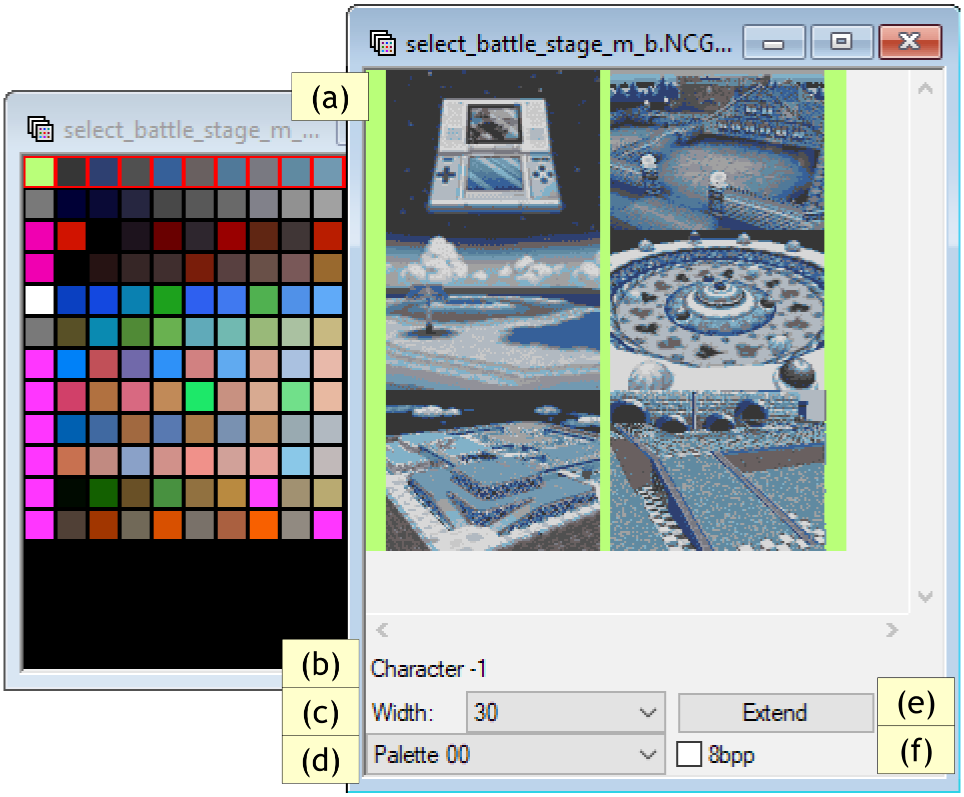
Generate Palette

Bitmap:
Colors: 16
Reserve First: ☑
Balance: Lightness — Color
Color Balance: Green — Red
Enhance Colors: ☐

The fields of the palette generation dialog are:
a) Input image. This can also be multiple images, and the palette will be generated for all of them at once.
b) Number of colors to produce.
c) Whether to reserve the first color entry for transparency.

5. Editing Graphics

This section goes over NitroPaint's primary purpose, editing graphics. These can be character graphics for a background, or may be graphics for object layer sprites. Open a character graphics file by using File->Open or dragging it onto the main window.



Character -1

Width: 30

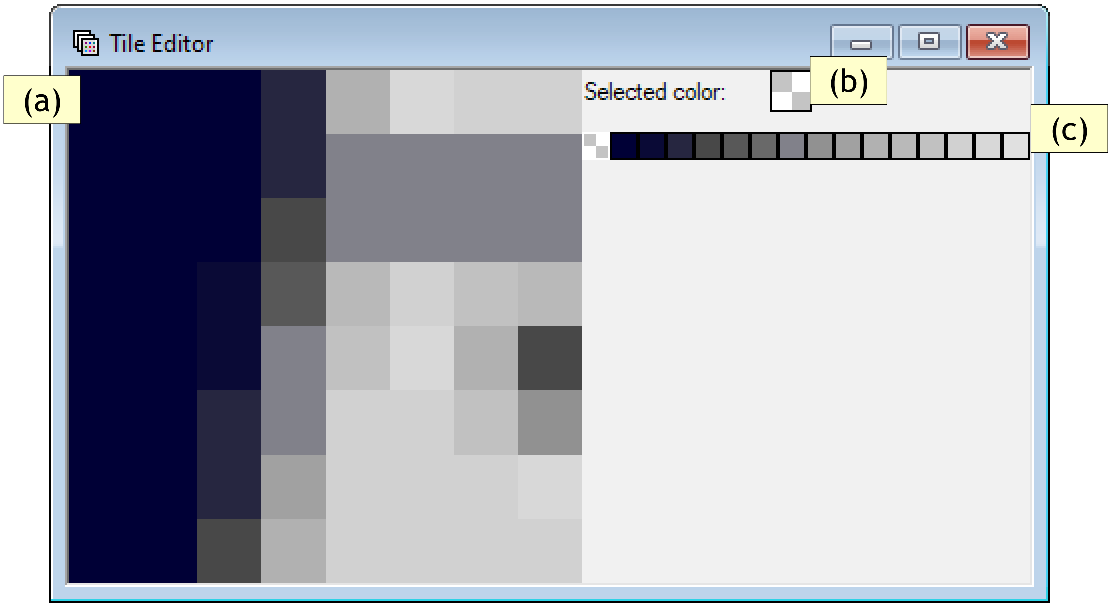
Palette 00

□ 8bpp

The basic elements of the graphics editor window are:

a) Graphics data.
b) Hovered character index.
c) Graphics view width (must be a factor of the character count).
d) Currently selected palette.
e) Button to extend the graphics region.
f) Bit depth control. Toggling this changes the view between 4 and 8 bit depth. This may be necessary when opening a file that does not store the bit depth.

To edit one tile of graphics, click on the tile, which will open the tile editor.

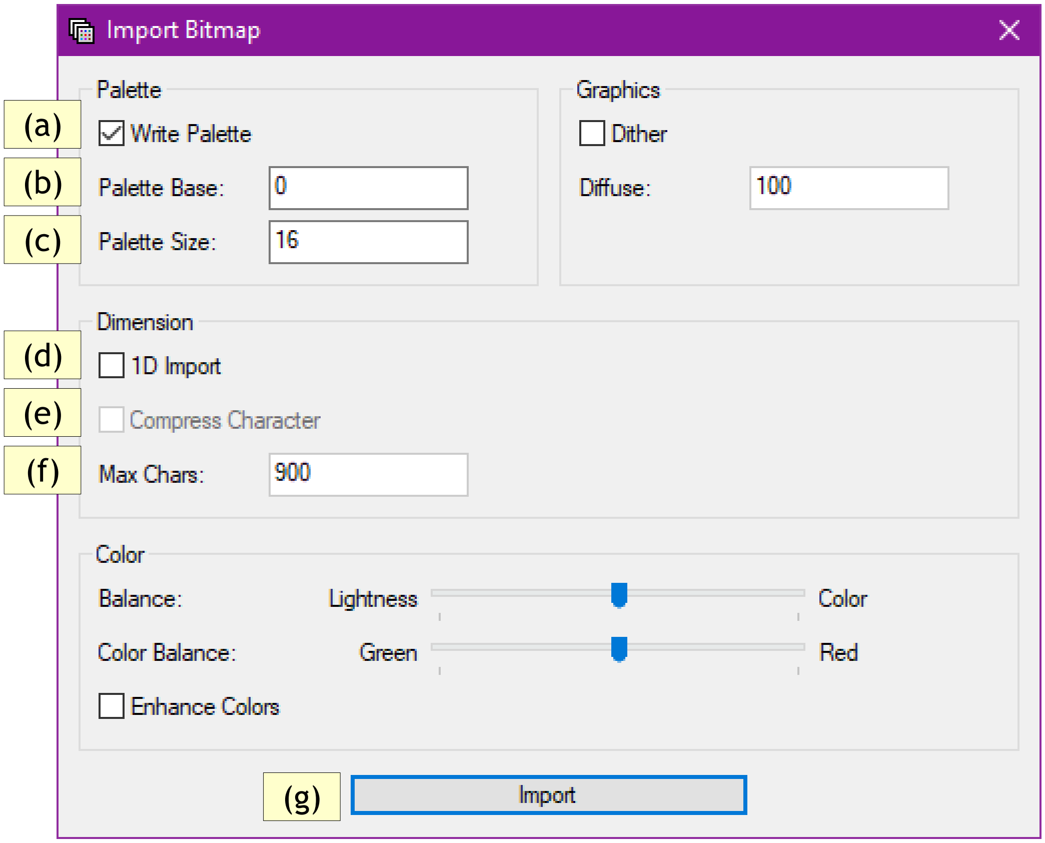


The elements of the tile editor are:

a) Tile graphics. The tile is previewed in the selected bit depth and using the current character editor's selected graphics. Click or click and drag to set the color of a pixel to the currently selected color. You can right click a pixel in the tile to set the current color to that color.
b) The currently selected color.
c) The current color palette. Click a palette entry to select it. The selected palette entry will be highlighted in white.

You can also copy and paste individual tiles. Copy a tile by right clicking it and selecting Copy. Paste it over another tile by right clicking the destination tile and selecting Paste.

The most powerful method of editing character graphics is by importing graphics data from an image file. The import can be done to either overwrite or retain the existing palette. The palette that would be overwritten is the currently selected palette. To import, right click the top-left tile of the import destination and select either Import Bitmap Here or Import Bitmap Here and Replace Current Palette. This will prompt for an input image and then open the import settings dialog.



Import Bitmap

Palette

☑ Write Palette

Palette Base: 0

Palette Size: 16

Graphics

□ Dither

Diffuse: 100

Dimension

□ 1D Import

□ Compress Character

Max Chars: 900

Color

Balance: Lightness — Color

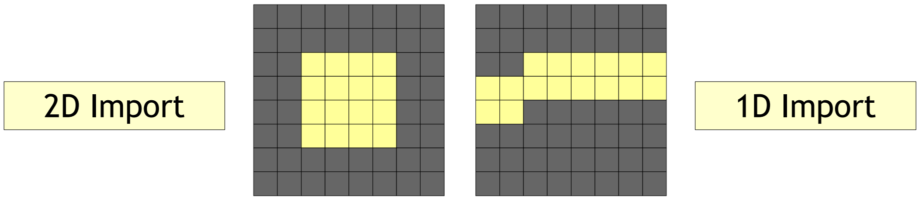
Color Balance: Green — Red

□ Enhance Colors

The import dialog has some elements similar to the background generator dialog.

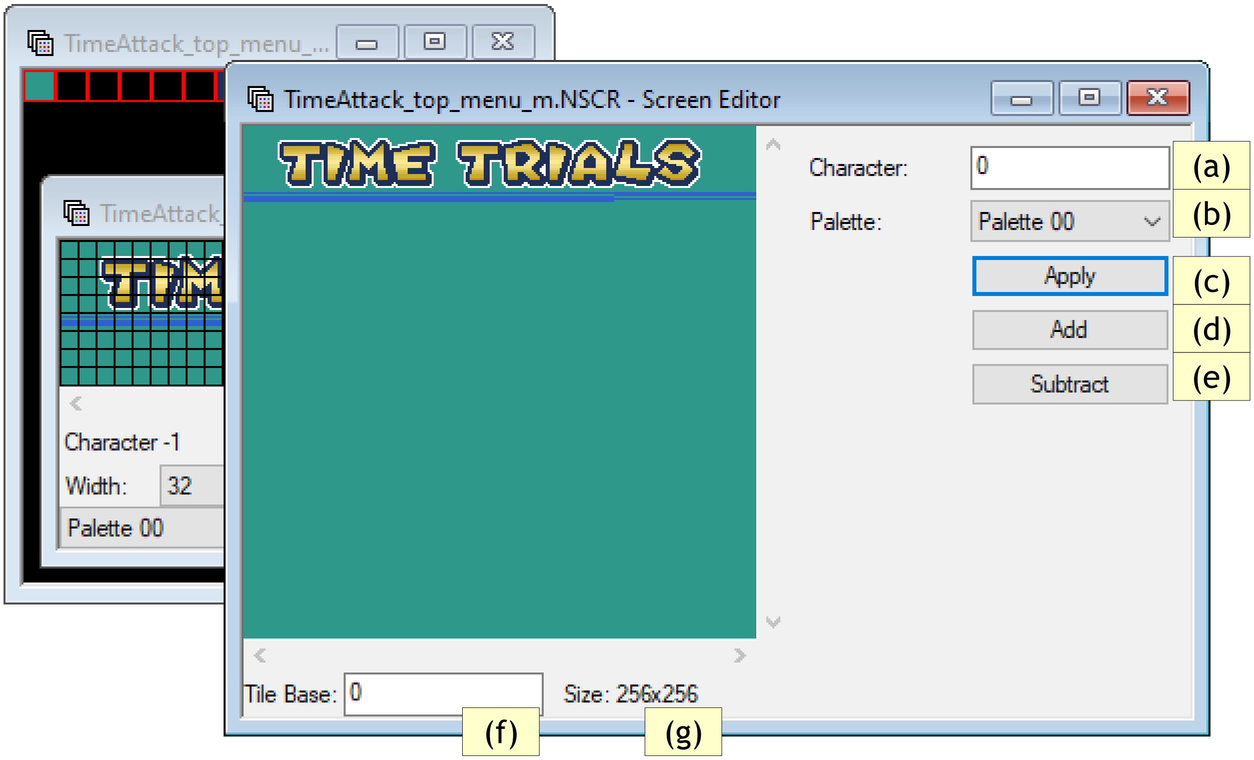
a) If checked, this will write to the palette with a palette generated from the input image. This is checked if you clicked the Replace Current Palette option in the context menu. Otherwise, this is unchecked by default.
b) The palette offset in the current palette to write, just as in the background generator dialog. If not writing a new palette, then this is the index of the first color in the current palette that will be used for graphics.
c) The number of colors to write to the palette if writing the palette is enabled. Otherwise, this is the number of colors in the current palette to use in the import.
d) If unchecked, the image will be imported onto the image taking up a rectangular area in the graphics space. If checked, then the image is broken up into tiles and imported linearly by character index.
e) If 1D import is enabled, you can check this box to enable character compression. This makes the import reduce the number of tiles in the image to fit within the set limit.
f) The limit for character compression, if enabled.
g) Button to finalize the import.

Below illustrates the difference between a 2D and 1D bitmap import.



6. Editing Screens

Open a screen file by using File->Open or dragging one onto the main window. The screen editor will look like pictured below.



TimeAttack_top_menu_m.NSCR - Screen Editor

Character: 0

Palette: Palette 00

Tile Base: 0

Size: 256x256

Character -1

Width: 32

Palette 00

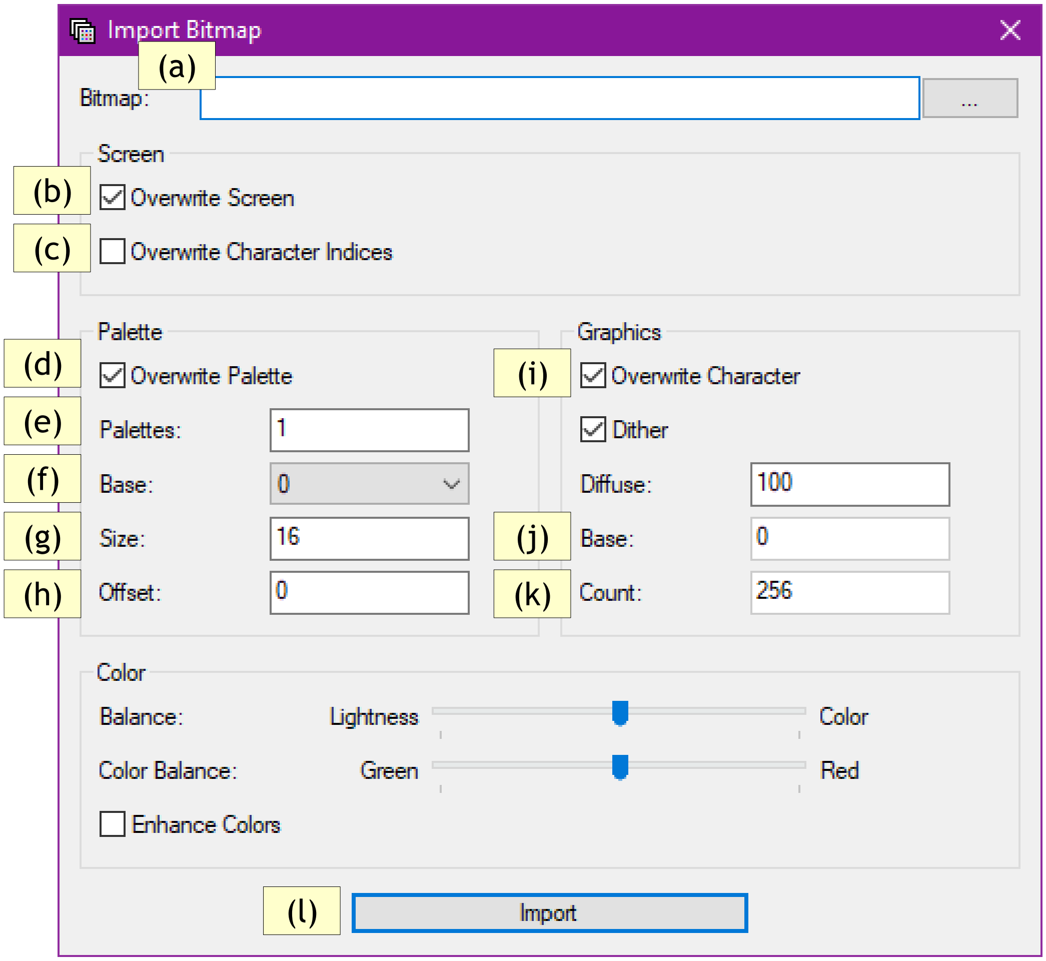
The screen editor's controls are outlined here.

a) Character index. When selecting a tile, its character index is reported here.
b) Palette index. When selecting a tile, its palette index is reported here.
c) Applies the character and palette inputs to the selected tile or tiles. If multiple tiles are selected, all tiles in the selection is set to the same palette and character index.
d) Adds the character and palette fields to those of all selected tiles. This can be used to offset character indices for when the VRAM layout requires background characters be loaded at an offset, or to shift the used palettes to another range for the selection.
e) Subtracts the character and palette fields from those of all selected tiles.
f) The character base index used for viewing the screen file. This is subtracted from all character indices when drawing the screen. This field does not affect the file on disk. When opening a screen or character graphics file and the screen would reference character indices out of bounds, this field is automatically set to accommodate that. The base may not be correct, such as if the graphics are aligned at the end. In this case, you can put the correct base in here.

In the screen editor, operations can be done on a selection at a time. Select by clicking a tile and dragging to form a rectangular area. Deselect by clicking an empty space in the editor, or by right clicking and selecting Deselect.

With a selection, the editor allows for flipping in either the vertical or horizontal directions. You can also copy a selection and paste somewhere else. If you paste within a selected region, however, the pasted image is clipped to the selection boundaries. To get around this, either deselect any current selection, or paste outside the selection region.

The most powerful feature in the screen editor is the bitmap import feature. Right click the top-left tile to import over, then select Import Bitmap Here. This will open the bitmap import dialog.



Bitmap:

☑ Overwrite Screen

☐ Overwrite Character Indices

☑ Overwrite Palette

Palettes: 1

Base: 0

Size: 16

Offset: 0

☑ Overwrite Character

☑ Dither

Diffuse: 100

Base: 0

Count: 256

Balance: Lightness — Color

Color Balance: Green — Red

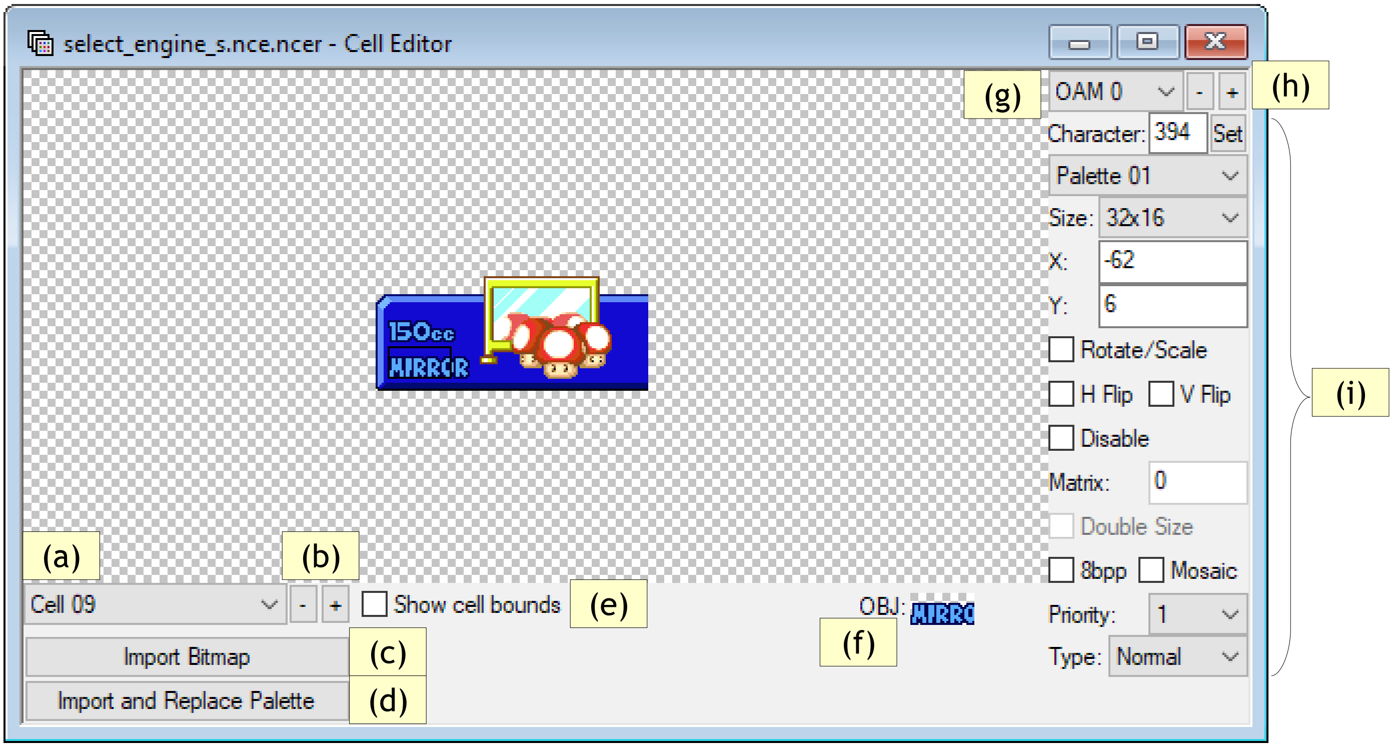
☐ Enhance Colors

The elements are:

a) The source image.
b) If checked, allows the import to modify screen data.
c) If checked, allows the import to modify character indices in the screen data.
d) If checked, allows the import to modify the palette.
e) Number of palettes to use in the import. Disregarded if Overwrite Screen is off.
f) Index of the first palette to use in the import. Disregarded if Overwrite Screen is off.
g) Number of colors in each palette to use in import. Disregarded if Overwrite Character is off.
h) Palette offset to use in import. Disregarded if Overwrite Character is off.
i) If checked, allows the import to write character data.
j) Index of first character to write if Overwrite Character is checked.
k) Maximum character count for import.
l) Finalize settings and begin import.

7. Editing Cells

NitroPaint also offers functionality for editing cells for the DS's object layer. Cells abstract the concept of individual objects into larger collections that can be manipulated as one to form larger, more complex sprites.



select_engine_s.nce.ncer - Cell Editor

OAM 0

Character: 394

Palette 01

Size: 32x16

X: -62

Y: 6

□ Rotate/Scale

□ H Flip □ V Flip

□ Disable

Matrix: 0

□ Double Size

□ 8bpp □ Mosaic

Priority: 1

Type: Normal

Cell 09

□ Show cell bounds

OBJ:

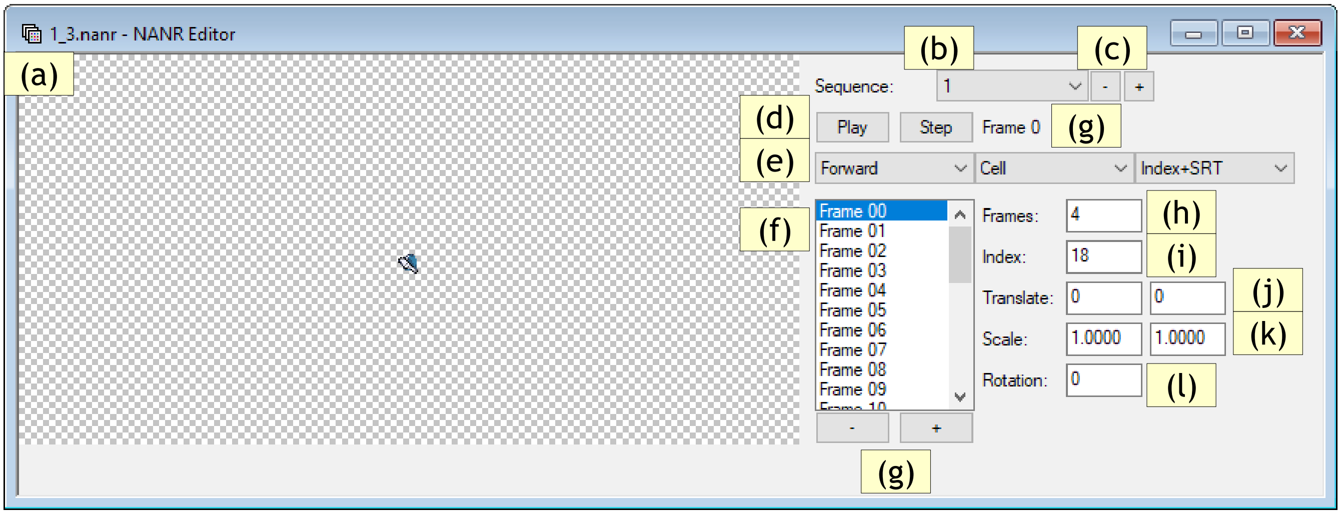
The elements of the cell editor are:

a) The selected cell.
b) Add/delete cell buttons.
c) Import a bitmap over the current cell. Existing objects are used and the image is imported over them, replacing their graphics in the character editor. The image replacement is done in screen space as shown in the editor, such that exporting the current cell would have the correct positioning.
d) Imports the bitmap as above, but also replaces the palettes of written objects.
e) Show the stored bounding box of the current cell. If none is stored, it shows as a (0,0) size bounding box.
f) A preview of the currently selected object in the current cell.
g) Object selection in the current cell.
h) Button to add/delete an object in the cell.
i) OAM attributes for the current object.

You can move objects around the cell by clicking and dragging, or by typing X and Y coordinates into the X and Y fields. X coordinates wrap every 512, and Y coordinates every 256. Objects off the edge of the screen wrap back around the other side.

8. Editing Animation Files

NitroPaint supports handling 2D animations that operate on cells. Open an animation file and it should look like the diagram below.



1_3.nanr - NANR Editor

Sequence: 1

Frame 0

Forward | Cell | Index+SRT

Frame 00
Frame 01
Frame 02
Frame 03
Frame 04
Frame 05
Frame 06
Frame 07
Frame 08
Frame 09
Frame 10

Frames: 4

Index: 18

Translate: 0 0

Scale: 1.0000 1.0000

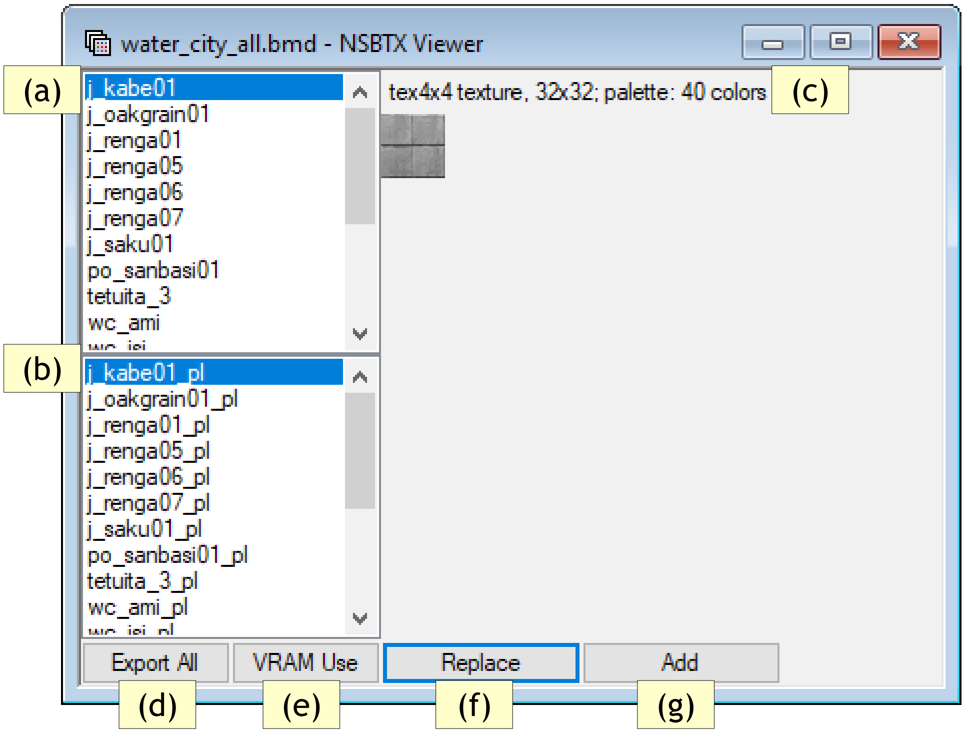
Rotation: 0

The elements of the animation editor are:

a) The animation frame preview.
b) The current sequence selection.
c) The add/delete sequence buttons.
d) The play/step frame buttons. Play will freely play the animation, step will step one frame through the animation.
e) Animation sequence properties. Controls forward or reverse direction, and whether to loop or terminate. It also determines the type of animation (cell or multicell animation), and the type of frames it contains. These can be Index (just cell indices), Index+T (cell index with XY translation), or Index+SRT (cell with XY translation, scaling, and rotation).
f) Frame list. Highlights currently viewed animation frame. You can select a frame here to view it.
g) Add/delete frame button.
h) Number of frames that the current animation frame takes up.
i) The index of the cell to draw for this frame.
j) The XY translation of this frame. (Only valid for Index+T or Index+SRT animations.)
k) The XY scale of this frame. (Only valid for Index+SRT animations).
l) The rotation of this frame from 0-65535, with 65536 corresponding to a full rotation.

9. Editing Texture Archives

NitroPaint offers the ability to edit texture archives. Texture archives are containers for a set of textures and palettes. Upon opening a texture archive, it should look like the below.



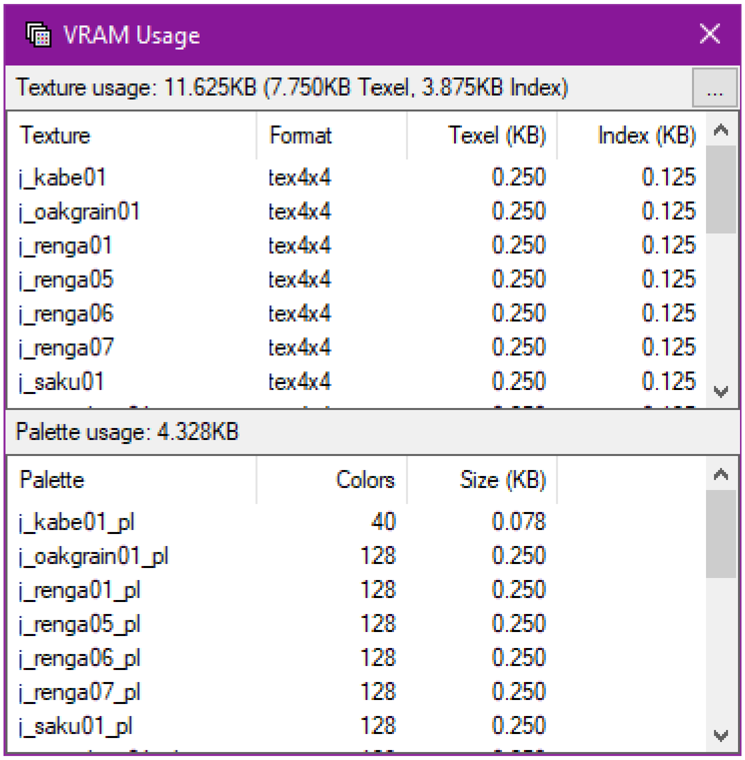
tex4x4 texture, 32x32; palette: 40 colors

The elements of the texture archive editor are:

a) The texture list. Select a texture here and it will preview on the right.
b) The palette list. Select a palette and it will preview the texture with that palette.
c) Information about the texture and palette. Contains format, dimensions, and palette size.
d) Export All button. Exports all textures in the archive. Note that since texture names and palette names need not match up with each other, NitroPaint takes its best guess based on the names and sizes of palettes which ones match to each other.
e) View a VRAM usage summary of the texture archive.
f) Replace the current texture with another texture from an NNS TGA.
g) Add a texture to the archive. If the texture includes a palette, the palette is added too.

You can rename a texture or palette by double clicking the name of an entry. This will bring up a dialog that lets you enter a new name for the texture or palette. To delete an entry, select it and press Delete.

The VRAM summary of the texture archive includes information about total texel size, index data size, palette data size, and a breakdown of VRAM use by each texture.



Texture usage: 11.625KB (7.750KB Texel, 3.875KB Index)

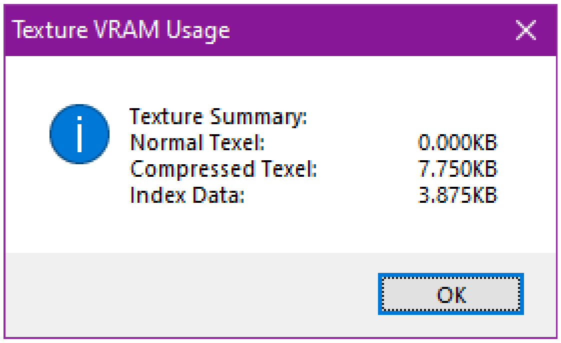
Texture	Format	Texel (KB)	Index (KB)
j_kabe01	tex4x4	0.250	0.125
j_oakgrain01	tex4x4	0.250	0.125
j_renga01	tex4x4	0.250	0.125
j_renga05	tex4x4	0.250	0.125
j_renga06	tex4x4	0.250	0.125
j_renga07	tex4x4	0.250	0.125
j_saku01	tex4x4	0.250	0.125

Palette usage: 4.328KB

Palette	Colors	Size (KB)
j_kabe01_pl	40	0.078
j_oakgrain01_pl	128	0.250
j_renga01_pl	128	0.250
j_renga05_pl	128	0.250
j_renga06_pl	128	0.250
j_renga07_pl	128	0.250
j_saku01_pl	128	0.250

On the top row, the texture VRAM usage is broken down into texel space and index space. Below, each texture is listed along with its format and its texel and index sizes. Similarly, in the palette section, each palette is listed along with its color count and size in kilobytes.

To get a more detailed texture VRAM listing, click the dots on the top row, which should open a dialog box like the one pictured here.

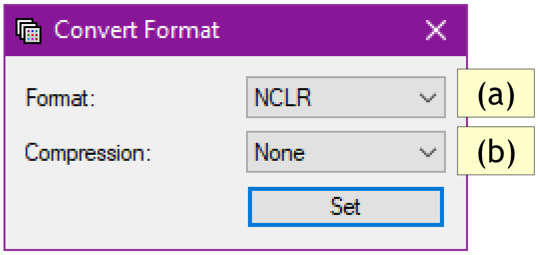


Texture Summary:
Normal Texel: 0.000KB
Compressed Texel: 7.750KB
Index Data: 3.875KB

In this breakdown, normal textures are separated from compressed textures. This may be useful to know since they have different requirements for loading into VRAM.

10. File Formats

One of NitroPaint's main features, as alluded to earlier, is its ability to handle files in different formats; this includes various supported compression schemes. Files can be converted from one format to another via the file conversion dialog accessed through File->Convert To.



Format: NCLR

Compression: None

In the dialog, field (a) determines the file format, and (b) controls the compression to be applied on top of this. Any compression type can be used with any file format. Once the file format or compression have been changed, the file must be saved for these changes to take effect on disk.

A table of supported file formats and compression schemes follows.

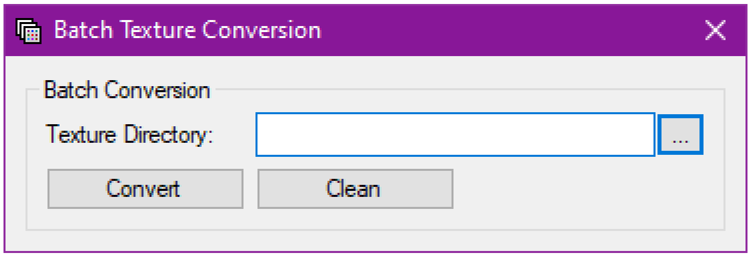
File Type	Supported Formats
Palette	NCLR, NCL, 5PL, 5PC, Mario Party DS, raw
Character	NCGR, NCBR, NCG, Mario Party DS, raw
Screen	NSCR, 5BG, NSC, Mario Party DS, Powerbike, raw
Cell	NCER, Mario Party DS
Animation	NANR
Texture Archive	NSBTX/NSBMD, BMD
Texture	NNS TGA
Compression	LZ77, LZ77 Header, LZ11 Huffman 4, Huffman 8 (reading), LZ11 “COMP”

When opening files, for the most part, the type of file is determined solely by its contents. This allows a file with an incorrect or missing file extension to be identified and opened correctly. This, however, is not a perfect system. In the case of raw files which contain no header, identification can be spotty. In these cases, NitroPaint factors the file's name into determining what type of file it might be.

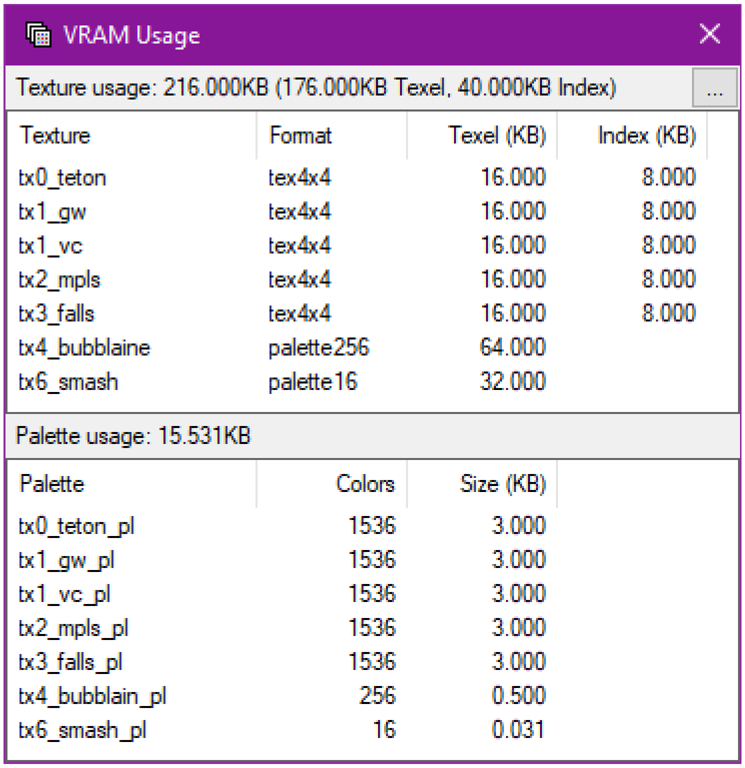
11. Batch Texture Conversion

One of NitroPaint's most powerful features is its ability to do batch texture conversion. This allows many textures at once to be converted at a time without human intervention. To get started with batch texture conversion, create a folder with the source textures. Batch texture conversion will create a folder inside called “converted,” where it puts the resulting converted texture files. Beware that the batch conversion process will process all directories (aside from converted) recursively, so don't nest lots of directories with lots of files in this folder.

Go to Tools->Batch Processing->Batch Texture Conversion. This will open a dialog that looks like below.



Select the textures folder and click Convert to initiate batch conversion. Once conversion finishes, a texture VRAM summary is opened.



Texture usage: 216.000KB (176.000KB Texel, 40.000KB Index)

Texture	Format	Texel (KB)	Index (KB)
tx0_teton	tex4x4	16.000	8.000
tx1_gw	tex4x4	16.000	8.000
tx1_vc	tex4x4	16.000	8.000
tx2_mpls	tex4x4	16.000	8.000
tx3_falls	tex4x4	16.000	8.000
tx4_bubblaine	palette256	64.000	
tx6_smash	palette16	32.000	

Palette usage: 15.531KB

Palette	Colors	Size (KB)
tx0_teton_pl	1536	3.000
tx1_gw_pl	1536	3.000
tx1_vc_pl	1536	3.000
tx2_mpls_pl	1536	3.000
tx3_falls_pl	1536	3.000
tx4_bubblain_pl	256	0.500
tx6_smash_pl	16	0.031

Once batch conversion runs for the first time, notice that each texture has an associated INI file. This stores the conversion parameters that NitroPaint used to convert them, and these can be modified if needed. The properties of the INI file are described here.

```
[Texture]
Format=<texture format>
Dither=<0 for no, 1 for yes>
DitherAlpha=<0 for no, 1 for yes>
Diffuse=<diffuse percent>
PaletteSize=<maximum palette size>
PaletteName=<palette name>
Balance=<balance from 1 (lightness) to 39 (color)>
ColorBalance=<color balance from 1 (red) to 39 (green)>
EnhanceColors=<0 for no, 1 for yes>
```

If the INI file is missing or any of its fields are missing, they will be filled in with default values after conversion.

NitroPaint also allows you to choose a specific texture format by placing the unconverted texture in a folder with the name of the texture format. For example, in the batch texture conversion folder, any texture inside a folder called “palette16” will be converted as a palette16 texture.

When batch conversion is run, only textures that have been modified since it was last converted will be converted. This includes changes to the texture's INI file. If you want to reconvert all textures, click the Clean button, which clears out all converted textures, then click Convert.

Any time, NitroPaint lets you view VRAM use statistics for a folder. Go to Tools->Batch Processing->Texture VRAM Summary. Select the folder where the converted textures are located, and it will bring up the VRAM summary window.

12. Specification Files

NitroPaint offers a way to open graphics files embedded inside larger files. To do this, create a text file called a specification file that tells NitroPaint where the offsets and sizes of graphics data are. The format of these files looks like:

```
File: Overlay_007
PLT: 2BF28, 200
CHR: 3D0B0, 8000
SCR: 30090, 800
```

This file tells NitroPaint that in a file called `Overlay_007`, there is `0x200` bytes of palette data at `0x2BF28`, `0x8000` bytes of character graphics at `0x3D0B0`, and `0x800` bytes of screen data at offset `0x30090`. The name of the file referenced is a path relative to the specification file. All offsets and sizes in the file are interpreted in hexadecimal.

To open these data sections, drag and drop the text file onto NitroPaint's window. On opening, all data sections are opened. With these files, saving one file will save all the others as well.