NestDrop User Manual

V2.x.1.3

Table of Contents

Installation

1. Prior to running NestDrop, two other pieces of software must be installed:
   - **Spout** - http://spout.zeal.co/
   - **DirectX9** - https://drive.google.com/file/d/1iHoVwdc2DM3vt9zrtNIVXdkwqo7-T93X/view
     *(The **DirectX9 June 2010 Edition** is required, even if you have another version of DirectX9 already installed. You can safely have multiple versions of DirectX installed.)*
2. Now you can start using NestDrop. Double-click NestDrop.exe
3. When you start up NestDrop for the first time, you might see security warning prompts:
   - NestDrop.exe /// main NestDrop interface
   - NestDrop_SpoutSender.exe /// Milkdrop engine, Spout sender, Deck window
   - NestDrop_LivePreview.exe /// provides a live preview of buttons

Tip: when unzipping the NestDrop folder, you must keep the internal folder structure for NestDrop to find the Presets. *<NestDrop/Plugins/Milkdrop2/Presets>*

Important note: Please avoid placing the NestDrop folder in "C:\Program Files", the application needs the Write access in the folder to save user settings.

Intro

NestDrop allows you to perform with visuals which react in realtime to the music. Then by using Spout, the video stream is seamlessly shared on the GPU for use in other VJ apps. Since the Milkdrop engine is at the core you can easily bring in any Milkdrop Presets. Use any audio source to drive the visuals, even live audio.

The Visuals

The developers of NestDrop often perform in a geodesic dome. But the visuals are perfectly suited for nearly any end format: projections, flat screens, monitors, projection mapping, or such. You are free to use the visuals in any way you imagine and no special permission is needed. Run wild!

Rendered on the GPU

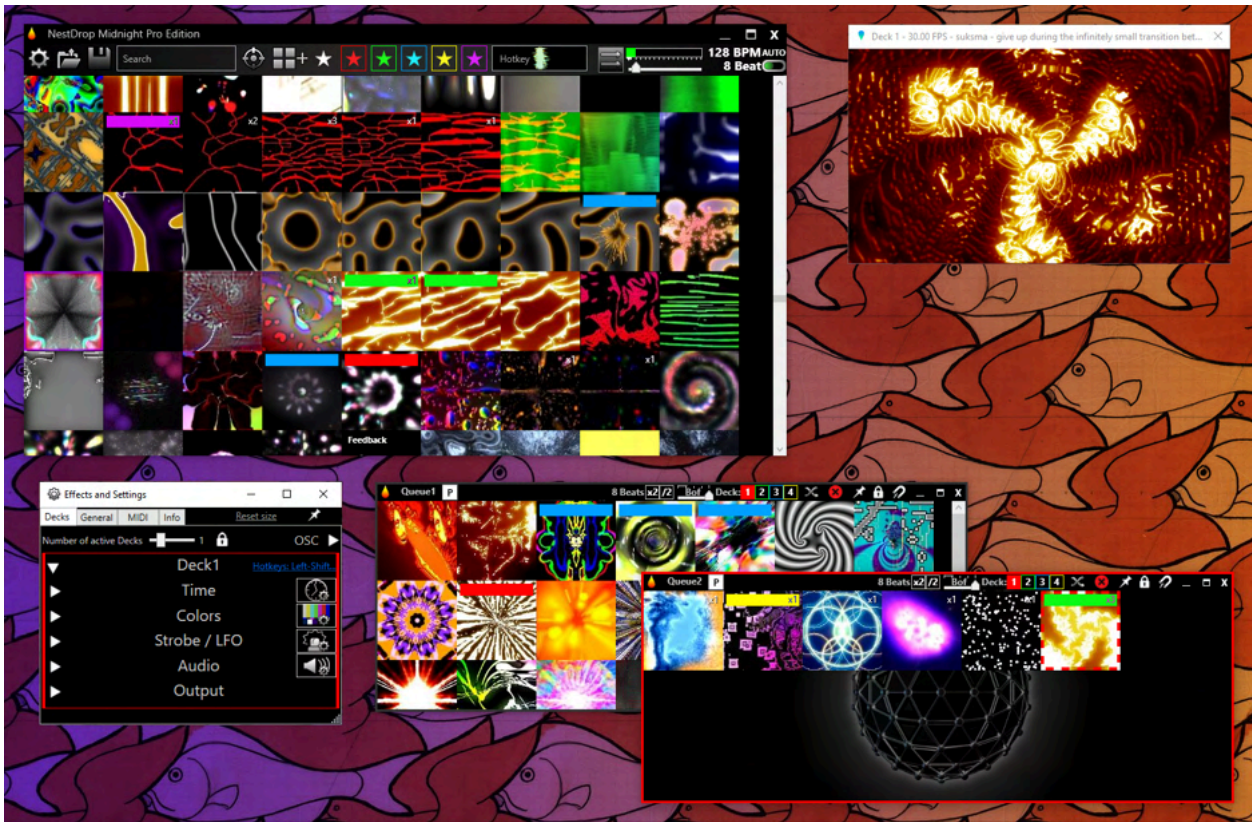
Since the visuals are generated in realtime, you can output visuals at 8k 60fps or more. The resolution of the NestDrop Spout video stream is only limited by how much GPU VRAM is available. If you max out the GPU resources then the frame rate will be automatically reduced.

NestDrop Classic -vs- Midnight -vs- Midnight Pro

NestDrop Midnight and NestDrop Midnight Pro include advanced features which some performers might find useful. Yet this user manual covers every feature and so we've added the **[Midnight + Pro Editions Only]** and **[Pro Edition Only]** tag to help make this clear.

NestDrop Interface

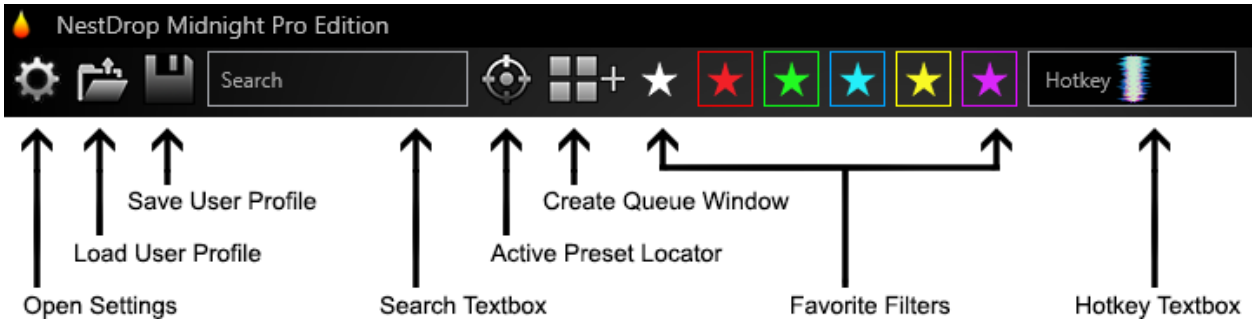
NestDrop consists of several different windows: **Library**, **Queues**, **Settings**, **Video Decks**



Library Window

The library window allows you to curate presets for a VJ performance. The library window contains the **Toolbar**, **BeatBar,** and **Library**.

Toolbar



Save the User Profile:

- Left-click on the button to save into the user profile file that is currently loaded. If you are using the default setup, it's saved as *DefaultUserProfile.xml*.

- To save a new user profile, right-click on the button to open a ‘Save As’ dialog window.
- The information saved into the XML file includes: settings, window position, favorites, hotkeys, comments, Sprite FX, Preset speed, MIDI controller, open/closed queue windows (name, size, position, button order, linked Sprites, Deck #)
- Be sure to backup the user profiles which are important to you. This is especially important if you are swapping out and testing different collections of Presets or updating NestDrop to the latest version. If there are any missing Presets then any related missing favorites will be permanently removed from the current User Profile upon being saved.

Load a User Profile:

- Left-click on the button to load a user profile (XML file). You can also drag-and-drop the XML file onto the NestDrop library window. The user profile will be loaded and the name is shown in the title bar. Any further changes will be saved into this file.

Search Textbox:

- Type text within the box to search for Presets and Sprites by their filename. The search also returns results based on the category folder names, subcategory folder names, and button comments. Multiple words are treated as an OR boolean search, for example “fir elec” will show all items containing “fir” like **fir**e and also all items containing “elec” like **elec**tricity. You can hit ESC to quickly clear the search box and show all items again.

Favorite Stars:

- Five star color tags are available to help with marking your favorites. To tag a Preset or Sprite with a particular color, simply drag-and-drop a star onto the button. To remove a tag then drag-and-drop the white star onto the button.
- If you wish to quickly add a favorite star to the active Preset of Deck 1, then you can use the following hotkeys: Left-CTRL + Left-SHIFT + [1-5]
- By clicking a star button in the toolbar, you can filter the Presets with this particular color tag in the library. Multiple filters can be activated at the same time. To remove all filters then click on the white star. To quickly view all color tags then click on the white star.
- It should be mentioned that the favorite colors and the Deck colors are not linked. Meaning that although they indeed share the same colors, favoriting Presets will have no effect on which Deck a Preset will be triggered to.

Active Preset Locator:

- Left-click on the button to scroll the library window directly to the active Preset.
- Right-click on the button to show a context menu with a list of the categories. Then you can click on a category to scroll directly to this section in the library window.
- You can also use the Deck Hotkeys when clicking on this button to locate the active Preset for a specific Video Deck #. (Refer to the “Default Hotkeys” section.)
- CTRL+click on the button to scroll the library window to the active Sprite.
- The active Preset or Sprite will have an animated dashed line surrounding the button.
- You can use CTRL+C to copy the file path of the active Preset into the clipboard. This allows you to easily navigate to the Preset using Windows Explorer so that you can edit it in other software.

New Queue Window:

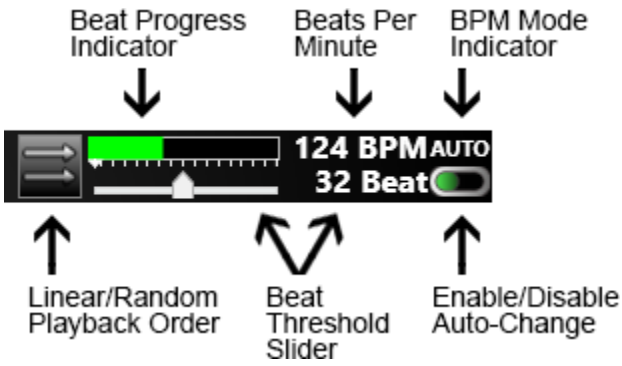
- Left-click on the button to create a new queue window.
- Right-click on the button to show a context menu which lists all of the open and closed queue windows. From the “open queue windows” listing you can select an item to set as the active queue window. From the “closed queue windows” listing you can select an item to make it visible again.

Hotkey Textbox: this textbox has multiple functions...

- Audio Spectrum Preview: Shows a real time spectrum of the audio. This allows you to see the incoming audio and know without a doubt that NestDrop is reacting to the correct audio. This preview shares the same render engine as the Live Preview, so it’s only visible when the user is not hovering the cursor over a Preset button.
- Hotkey Mapping:
    - Type a single character *(0-9, a-z)* into the hotkey textbox and then drag-and-drop it on a Preset or Sprite button. This will be assigned as a custom hotkey.
    - You can also drag-and-drop a string of characters *(example: 1234567890)* onto a Preset in a queue window. This will assign multiple hotkeys at the same time. The Preset receiving the drag-and-drop will get the first character, the Preset to the right will receive the second character, and so on. Although this technique only works when applied to Presets or Sprites within a queue window.
    - To remove a hotkey assignment, enter an asterisk *(example: *)* into the textbox and then drop it onto the Preset.
    - Use multiple asterisks *(example: ********)* to remove multiple hotkey assignments all at once. Although this technique only works when applied to Presets or Sprites within a queue window.
    - When the cursor is within the hotkey box, you can hit ESC to quickly clear the hotkey box of text.
    - A hotkey can be shared between both a Preset button and Settings button.
- Set the Queue Window Title: Enter text in this textbox and then drag-and-drop the text into a queue window background to change the text listed within the title bar.
- Visualize Text: Enter text in this textbox and press ENTER to send the text into the Deck1 visuals. Also the Deck Hotkeys can be used to send text into a particular Deck #.
- Sprite FX: Enter a number (00-99) in this textbox and then drag-and-drop this text onto a Sprite button to assign a Sprite FX. Check out the *‘Image Sprites’* and *‘Spout Sprites’* chapters below to learn more.
- Add Comment into Button: Hold the CTRL key while drag-and-dropping the text onto a button. Check out the *‘Preset Button: Comments’* chapter below to learn more.

BeatBar

The BeatBar manages the auto-change functionality. It will automatically detect the BPM of the music and then auto-change the Presets in the active queue window. The Beat Progress Indicator is restarted whenever a Preset is manually triggered.



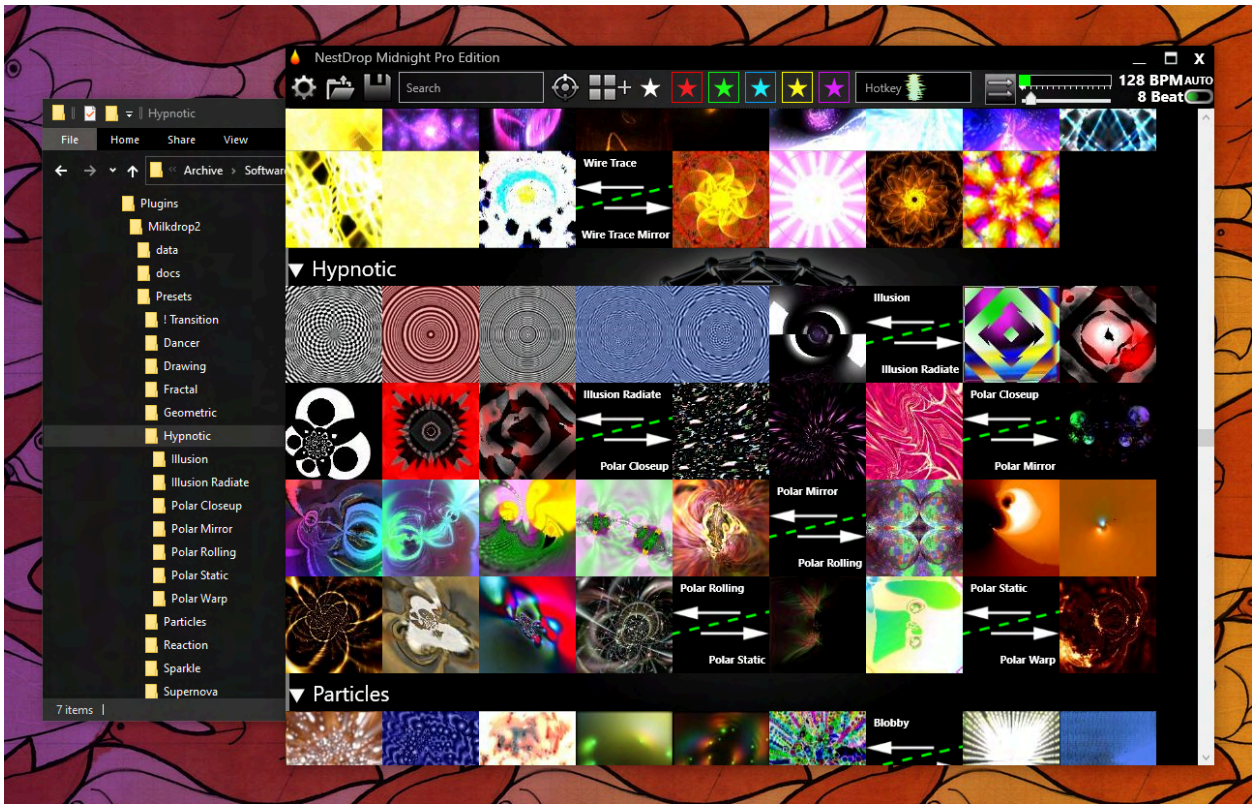
- **Enable/Disable Auto-Change:** Enable or disable the auto-change function by clicking this button (or hitting the CAPS-LOCK key). This can also be MIDI mapped.
- **BPM Mode Indicator:** There are 4 different BPM modes available:
    - **AUTO:** Automatic BPM (with black background color). NestDrop will continuously listen to the music and try to automatically detect the BPM of the music based on the time between volume peaks in the bass frequencies.
    - **MAN:** Manual BPM (with green background color). This can be set by either manually inputting a BPM value or the tap-tempo technique. To quickly disable the Manual BPM, double left-click on the BPM text.
    - **LINK:** Ableton LINK BPM (with cyan background color). Check out the *'Use Ableton LINK'* chapter to learn more.
    - **MIDI:** MIDI Clock BPM (with yellow background color). Check out the *'Setup a MIDI Controller to use in NestDrop'* chapter to learn more.
- **Beat Per Minute:** This text will show the current BPM value.
    - **Manually input a BPM value:** You can right-click on the BPM text text to manually input a value. This allows you to go lower or higher than the default value. After it has been manually set then the BPM Mode will change to "Man" (Manual BPM). You can double left-click on the BPM text to disable the Manual BPM mode and then it will switch back to Automatic BPM mode.
    - **Tap-Tempo BPM:** You can tap to the beat by steadily clicking on the BPM text. This can also be achieved by steadily clicking on the active Preset. After three left-clicks then the BPM Mode will change to "Man" (Manual BPM) and you have successfully set the BPM using a tap-tempo. The tap-tempo functions when within the range of 60-230 BPM. You can double left-click on the BPM text to disable the Manual BPM mode and then it will switch back to Automatic BPM mode.
- **Beat Threshold Slider:** Allows you to select how many beats are counted in a bar (from 2 to 64 beats). You can reach 1 beat by using the "Beat Divider" in a queue window. Also you can go higher than 64 beats, as explained below.
    - **Manually input a Beat Threshold value:** You can right-click on the Beat Threshold text to manually input a value. This allows you to go higher than what the slider has available.
- **Beat Progress Indicator:** Shows you the beat time progression. The progression is synced back to zero every time a Preset is manually activated. The progression is shown

even if the auto-change is disabled. When the auto-change is disabled then it will have a gray color and when the auto-change is enabled then it will have a green color.

- **Linear or Random Playback Order:** Determine if the buttons in the active queue window will be played back sequentially or randomly.
- **Windows Taskbar Icon:** The NestDrop app icon in the Window taskbar will animate to show the Beat Progress. When the auto-change is enabled then the progress within the icon will use a green color. When the auto-change is disabled then the progress within the icon will use a yellow color.

Preset Library

NestDrop will index all Presets found within the *<NestDrop/Plugins/Milkdrop2/Presets>* folder. It will also index any nested folders. You can install your own Presets to this location.

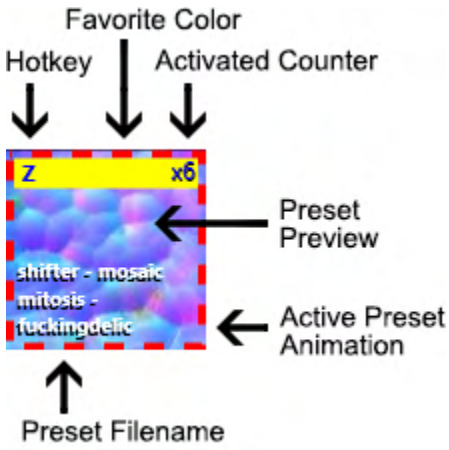


Preset Organization

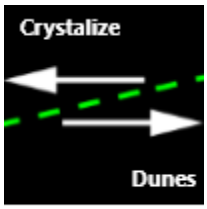
You can organize the Presets into your own categories and subcategories using the following folder architecture. *(As shown in the example above.)* This feature is optional and you are welcome to just dump Presets directly into: *<NestDrop/Plugins/Milkdrop2/Presets>*

Category: Folders placed directly into the Presets folder are treated as the main categories *(As shown in the example above: Geometric, Hypnotic, Particles)*. A section label is automatically created to help easily identify categories within the library window. They are also listed within the ‘Active Preset Locator’ context menu.

Subcategory: Any nested folders within the main category folders are treated as subcategories *(As shown in the example above: Illusion Radiate, Polar Closeup, Polar Mirror)*. Bookends are used to separate subcategories within the library window.



Example of a Preset button



Example of a Bookend

Preset Buttons: Preview Image

When NestDrop is started up and initializing, it will check to see if there are preview images available within the *<NestDrop/Plugins/Milkdrop2/Presets>* folder and any nested folders. It will then proceed to build the Preset buttons in the library window using these preview images. The Preset file and Preview file must have the exact same filename for this to function. Any missing preview images will instead have a question mark for the button background and the filename will be shown.

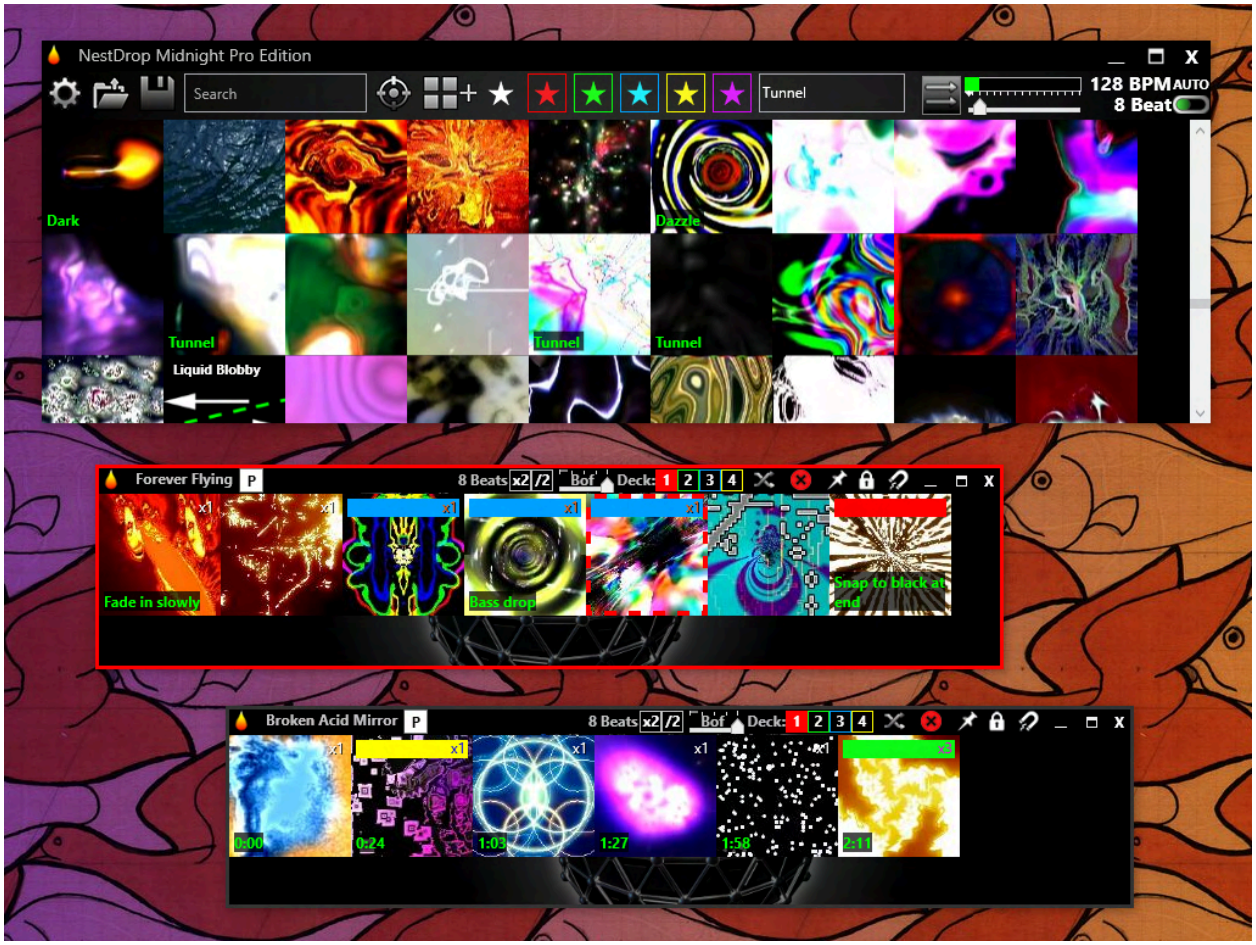
If thousands of Presets are installed, then it will take a moment to load all of the previews into memory. Watch the NestDrop title bar to know when it's done loading. If you are running NestDrop on a SSD then it will load much faster.

Within the Settings window is the 'Update Previews' tool, which will automatically create images of any presets which do not have previews yet.

Preset Buttons: Live Preview

After NestDrop has completely initialized and finished loading the button preview images, then you can move the cursor over a Preset to see a live preview of the visuals overlaid on top of the button. It will take a moment for the live preview service to initialize after you move the cursor over a Preset for the first time.

The live preview is not a prerecorded video loop, it is actually generated by a tiny Milkdrop engine and is reactive to the music. The settings for the live preview are locked at 256x256 @ 60fps (with a hardcut transition). If you are live previewing a Preset and then you decide to trigger it, then the live preview will be hidden until you hover over a different Preset.



Preset Buttons: Comments [Midnight + Pro Editions Only]

You can add your own comments onto the Preset and Sprite buttons and it will be visible as green text within the button. *(As shown in the example above.)* This is useful in several different aspects: reminders of what you enjoy about a specific Preset, performance timings to watch for, and/or creating your own searchable tags.

Add a comment into a button:

- Type some text into the hotkey textbox and then hold the CTRL key while drag-and-dropping the text onto a button.
- Or you can drag-and-drop directly if the text contains a space (such as "Fast Tunnel" or "FastTunnel ") or if the text contains a colon (such as "1:34").
- If you add a comment onto a button which already has a comment, then the old comment will be overwritten.

Remove a comment from a button:

- Type a single space " " into the hotkey textbox and then drag-and-drop it onto a button.

More info about comments:

- All of the comments in the library window are considered when a search is conducted. So you can use the comments as a way of tagging Presets with your own unique tags.

- You can have duplicate copies of the same button but with different comments. This is useful if you want to label specific tags within the library window for easy searching, but then add a different note within a queue window.
- The comment will follow when a button is copied from the library window into a queue window. But the comment is automatically removed when the button is copied within a queue window (hold the CTRL key while drag-and-dropping on a button).
- To use comments specifically for creating your own searchable tags, consider adding brackets around the tag, such as [tunnel]. Then you can type in [tunnel] into the search and only view presets containing this specific tag within the search results.

Preset Buttons: Hide Only Part of a Filename

If you would like to hide part of a Preset filename from being visible in the button, then you can use "===" in the filename. Everything after the "===" will be hidden. For example *"Super Fast === $$$ Royal - Mashup 286.milk"* would show up as *"Super Fast"* in the button. You can make the filenames visible by checking the 'Show Preset Name' checkbox in the Settings window

Preset Buttons: Max Allowed Characters

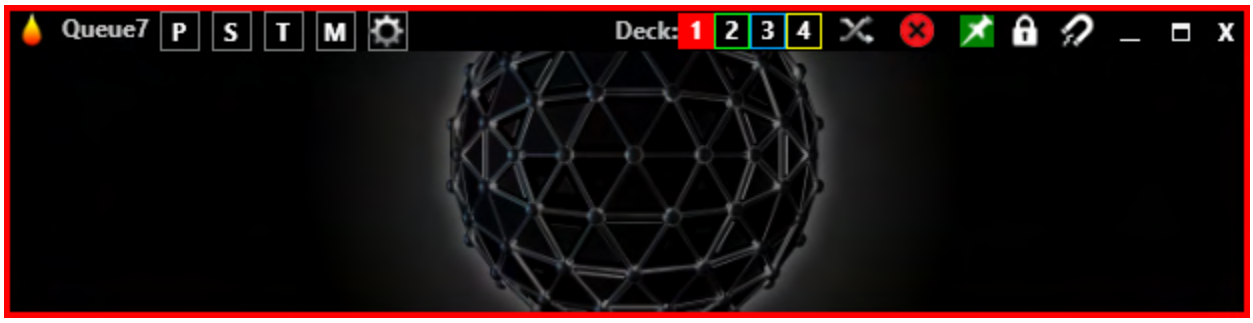
A max of 256 characters is allowed within the absolute path of Presets or it will be an unresponsive button in NestDrop. This is a default max-path limitation of Windows. Some Presets have been known to have outrageously long filenames. So if you are running into problems with this then try installing the NestDrop folder into the C: root directory.

Category Sections: Collapsible

To the left of each category section title is a small triangle. If you click on the triangle then the category will collapse and be hidden. Also you can collapse/open all of the category sections by holding CTRL and then click on a triangle.

Queue Windows

The queue windows can be used to create different groups of Presets or Sprites to perform with. Despite the fact that you can trigger Presets directly in the library window, collecting Presets in a queue window allows you to plan out different song hit points, organize based on mood, or whatever you need. The queue windows also give access to more features like the Spacebar hotkey, assigning multiple hotkeys at once, auto-change, and using a MIDI controller.



Queue Mode Indicators [P S T M ⚙]: The Queue mode is automatically determined based on the first button which is drag-and-dropped into the queue window. So if you drag a Preset button into the queue window then the "P" indicator will light up, or if you drag a Sprite button into the queue window then the "S" indicator will light up.

- *P: Presets*
- *S: Sprites*
- *T: Text*
- *M: MIDI*
- *⚙: Settings*

If you click on the “S” indicator, then all of the Sprites within this queue window will be adjusted to use either the Overlay, Nested, or user selected state. But nothing will happen if you click on other indicators.

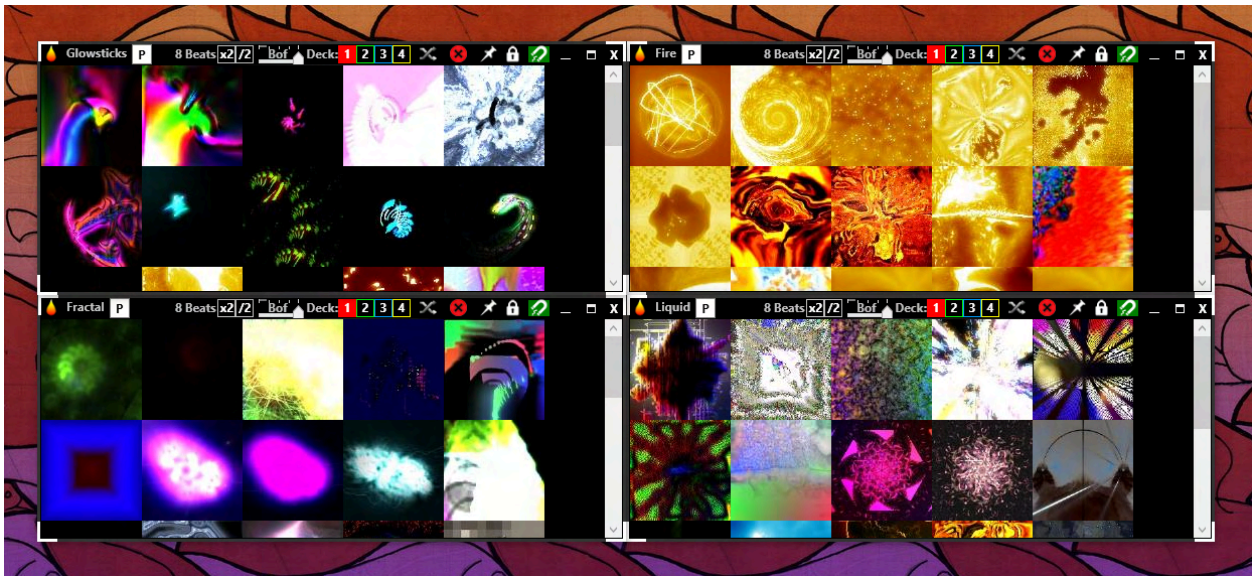
Video Deck # Buttons: You can select Deck 1, 2, 3, or 4 to be linked for this queue window. When you click on a Preset button, then it will be triggered to the selected Deck #.

Shuffle Button: You can click this button to quickly randomize the order of the preset buttons in this queue window.

Clear Button: You can quickly remove all of the buttons from an individual queue window. A confirmation prompt is shown to protect against an accidental click.

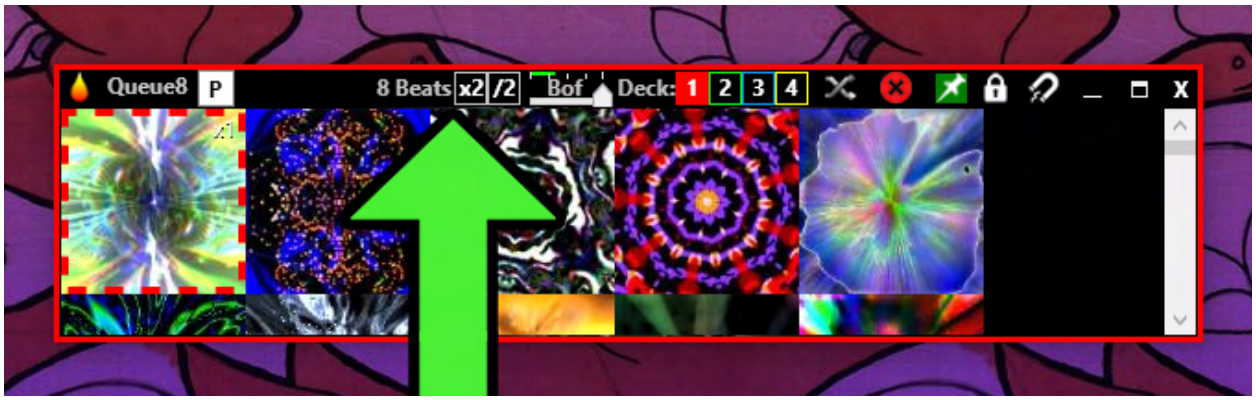
Pin Button: You can make this queue window appear “always on top”.

Lock Button: You can click this button to stop any changes in an individual queue window. No new presets can be added, removed, or reorganized when it is locked. Also clicking the Shuffle Button and Clear Button will be ignored.



Magnet Button: You can click this button on multiple queue windows and then the queue windows can be made to stick together. *(As shown in the example above.)* This is designed with window management in mind and can help you move all of the queue windows together or quickly make them all top-most.

- When a queue window has the magnet button activated, then the corners of the queue windows will turn white to help make this obvious.
- If you click-and-drag on a queue window title bar, then other queue windows (with the magnet button activated) can be made to stick to any side of the window.
- Queue windows will automatically stick together when they are within a short range of each other (~20 pixels).
- If you click-and-drag on a queue window title bar and quickly move it away from the magnet group, then it will automatically break off.
- You can CTRL+click on the Pin and Lock icons of a queue window and it will enable/disable it for all queue windows within the magnet group.



Beat Offset / Beat Divider / Beat Multiplier: The Preset, Sprite, and Settings queue window modes have an additional section that allows you to offset, divide, or multiply the BPM of the music for the auto-change. *(As shown in the example above.)* This enables each queue window to react differently to the auto-change and allows for complex automation. The Beat Offset is linked to the BeatBar, so be sure to check out the *'BeatBar'* chapter to learn more.

- "Bof" is shorthand for Beat Offset. You can use this to offset where the auto-change is triggered within the beat time progression.
- Just above the "Bof" slider is the beat time progression. When the auto-change is active then the timeline will turn green.
- Next to that is the /2 Beat Divider and x2 Beat Multiplier. While the global Beat Threshold is set in the BeatBar of the library window, this allows you to adjust the Beat Threshold for each individual queue window. This is useful for having each queue window set to a different musical bar length.
- Also featured is the text "# Beats" which displays the Beat Threshold for this queue window.

Activate a Queue Window

While multiple queue windows can be open at the same time, only a single Preset queue window can be active per Video Deck. The active queue window can be identified by a solid outline around the outer edge of the queue window (red, green, blue, yellow). Only the Preset, Sprite, and Settings queue windows can be made active.

- You can double-click on the title bar of any queue window to activate it.
- Another way to activate a queue window is to right-click on the 'add queue window' button and select it in the context menu.
- You can also use a MIDI controller to activate a queue window. Check out the *'MIDI Options'* chapter to learn more.

Press the TAB key to cycle through the queue windows and bring them into focus. Press Shift+TAB to cycle in reverse.

It is possible to have one active Preset queue per Video Deck through the use of the 'Video Deck # Buttons' within each queue window. Having multiple queue windows active is useful for

changing multiple presets at the same moment when the spacebar is pressed, or when using the auto-change.

Also it's possible to have a Preset queue, Sprite queue, and Settings queue active at the same time for a single Video Deck. This is useful for changing multiple buttons in multiple queues at the same moment when the spacebar is pressed, or when using the auto-change.

Add a Preset into a Queue Window

To add a Preset into a queue window, drag-and-drop a Preset button from the library to the queue window. The order of the Presets in the queue window depends on where it was dropped. You can change the order by drag-and-dropping the Preset buttons around. You can move a Preset from one queue window into another by drag-and-dropping.

Holding the CTRL key while dragging a Preset will create a copy of it. But any comments, linked sprites, or linked settings will not be copied. This is a way to make a duplicate preset in its original state.

Add Multiple Presets into a Queue Window

To add multiple Presets at once into a queue window, you can drag-and-drop a category title or subcategory bookend to the queue window. If you're viewing some search results, then only the visible Presets or Sprites will be copied into a queue window when you drag-and-drop on a category title or subcategory bookend.

Remove Presets from a Queue Window

To remove a Preset from a queue window, drag-and-drop the Preset back into the library window. Or to remove all of the Presets, click the clear button in the queue window title bar.

Add Sprites onto a Preset Button

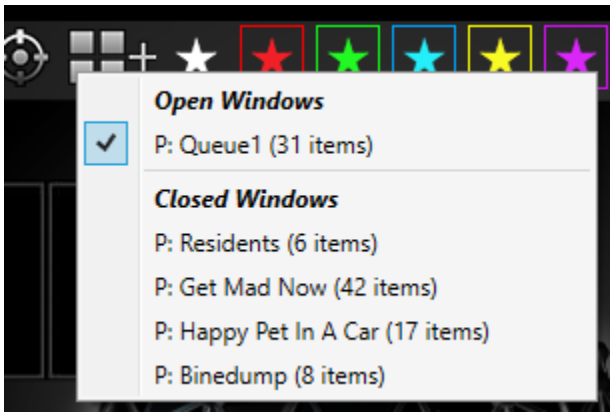
Sprites can be added to a Preset in the queue window by drag-and-dropping a Sprite onto the corners of a Preset button. The Sprite will be shown in miniature in the corner of the Preset button where the Sprite was dropped. Up to four Sprites can be added to a single Preset, one in each corner. The Sprites in the two bottom positions will integrate into the Preset drawing process (Nested), and the Sprites in the two top positions are drawn over the Preset drawing (Overlay). But something to consider is that using multiple large resolution Sprite images will use more GPU resources.

Rename the Title of a Queue Window

Enter text in the Hotkey textbox and then drag-and-drop the text into a queue window background to change the name listed in the title bar.

Closed Queue Windows

If you close a queue window then it will be cached. Queue windows can be reopened by right-clicking on the ‘add queue window’ button and a context menu will be shown. When the user profile is saved, the closed queue windows are included and will be available after you quit and open NestDrop at a later time. You can delete a queue window by removing all Presets and closing the window and it will then be destroyed when NestDrop is quit. This feature was chosen so that multiple queues can be prepared and experimented with, but only made visible when needed.



Import Queue Windows from a Different User Profile

If you hold the CTRL key while drag-and-dropping a user profile XML file onto the library window, then NestDrop will import the queue windows into the current user profile. Only the queue windows are imported and nothing else is changed in the current user profile (favorites, hotkeys, settings, etc). Also multiple XML files can be drag-and-dropped at once into NestDrop and all the queue windows will be imported from the various XML files. If you save after importing, then the newly imported queue windows will be saved into the current user profile.

Folder Preview Mode

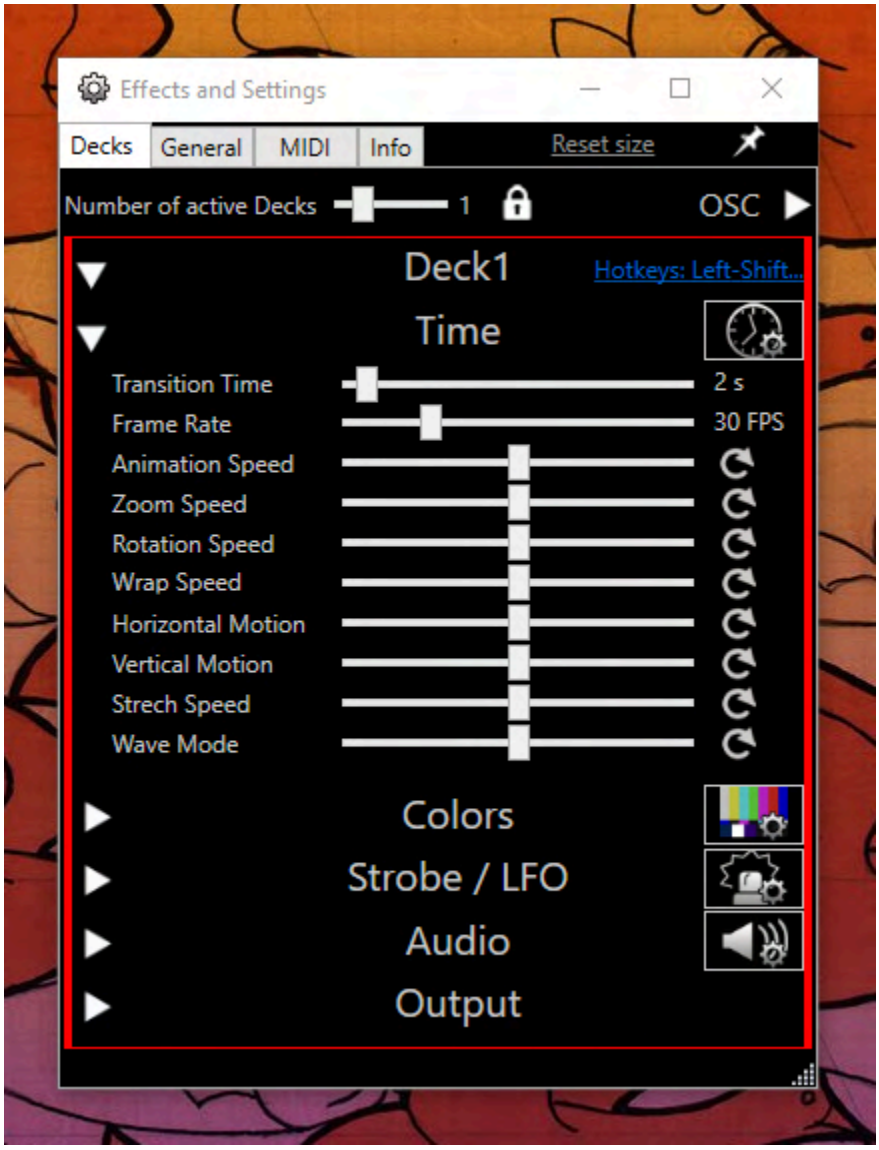
If you wish to preview a folder of Presets before permanently adding them into the NestDrop library, then you can drag-and-drop a Windows folder into a queue window. NestDrop will then temporarily index the presets within this folder and the queue window title will become <FolderName>. This allows you to easily test out new presets and do some curation.

When a queue window is in the Folder Preview mode, the shuffle button is replaced with a refresh button that will re-index the folder and add any new presets. Also the lock button is automatically enabled to avoid adding/removing presets into other queue windows.

The “Update Previews” tool can function on a queue window in the Folder Preview mode. This allows you to make previews without permanently adding them into the NestDrop library. When the “Update Previews” tool is executed then it will first process the library window and after that is completed then it will process the queue windows.

Beware that the Folder Preview mode is intended for short term usage and so any favorite stars, comments, such customization to the preset buttons could be lost if the folder is moved or renamed.

Settings Window



Decks Options

Number of Active Decks: Select how many Video Decks you want to be running. NestDrop will automatically start or stop the Decks, so beware of changing this attribute during a performance since the Spout stream will also be closed. The “Lock” button is available so that this slider can be protected from accidental clicks while performing. If a Deck crashes for some reason and yet NestDrop.exe is still running, then the Deck will automatically relaunch.

Reset Size: Clicking this text will reset the size of the Settings window.

Pin Button: Enabling this button will allow the Settings window to be “always on top”.

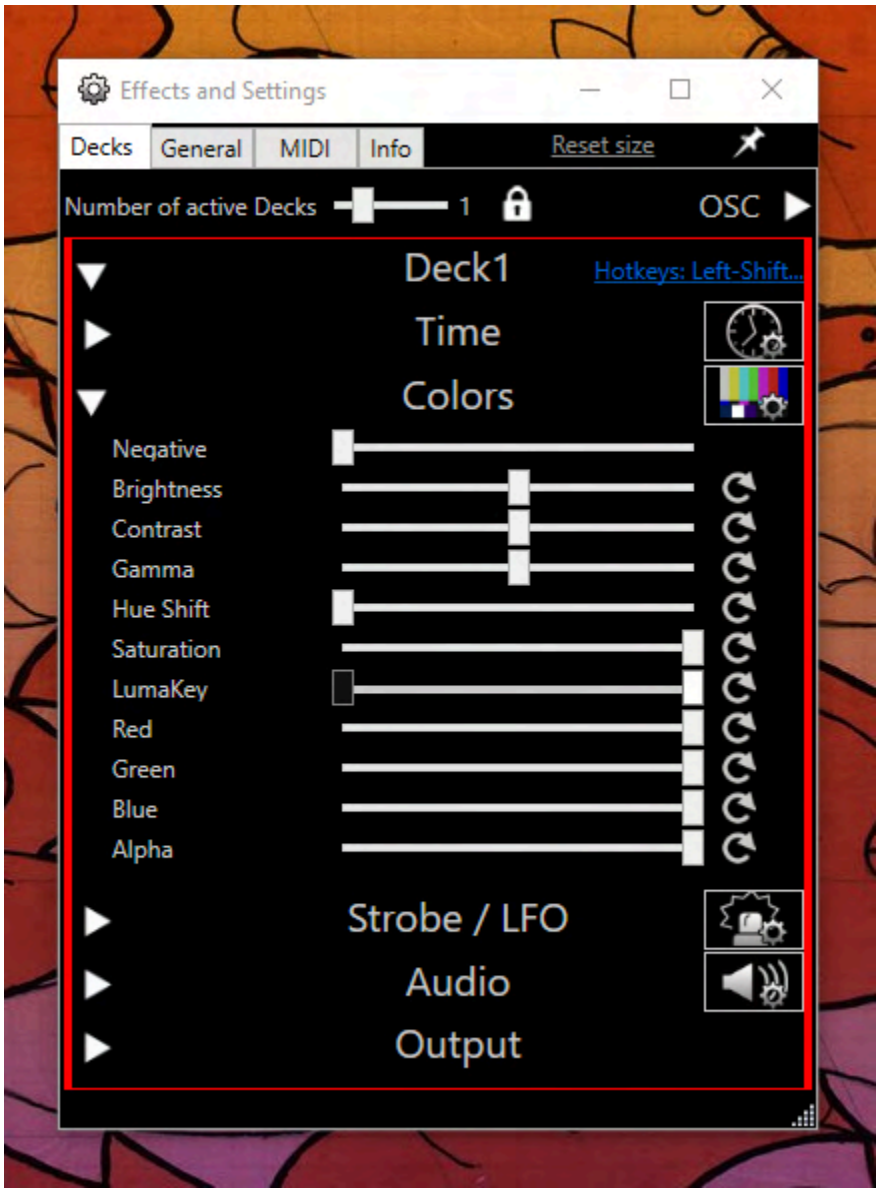
Time Settings

Transition Time: Amount of time used to transition from a Preset to the next one. The transition effect is automatically determined based on how the Preset was designed. Both Presets will mix together during the transition and you can get some interesting effects. This can be used to transition between Presets smoothly. But if you use large transition times then you can get some experimental effects. Holding the CTRL key when manually activating a Preset will bypass the transition time setting and instead create a hardcut.

Frame Rate: Determine the frame rate of the Video Deck (20-60 fps). Due to the Milkdrop engine design, as you increase the FPS then the visuals will also speed up. Since the visuals are rendered in realtime, frame rate variability is to be expected for some presets which perform heavy calculations.

Animation Speed: Change the speed of presets which utilize this attribute. This slider only functions if the preset utilizes code related to animation speed. So for some presets it will make a big difference, and for other presets it will have no effect. Check out the *'Assign a unique Animation Speed to each Preset'* chapter to learn more.

Zoom / Rotation / Wrap / Horizontal / Vertical / Stretch / Wave: The visual effects of these sliders will vary according to each Preset. So it depends on how the Preset was designed and if any these attributes are used in the Preset drawing code. Sometimes the sliders will produce interesting effects and then for other presets it will have no effect.



Colors Settings [Midnight + Pro Editions Only]

Negative: Invert the colors of the Deck visuals.

Brightness: Make the Deck visuals darker or brighter.

Contrast: Add or remove contrast to the Deck visuals.

Gamma: Adjust the brightness of dark pixels for the Deck visuals.

Hue Shift: Rotate the hue color of the Deck visuals.

Saturation: Adjust the color saturation of the Deck visuals.

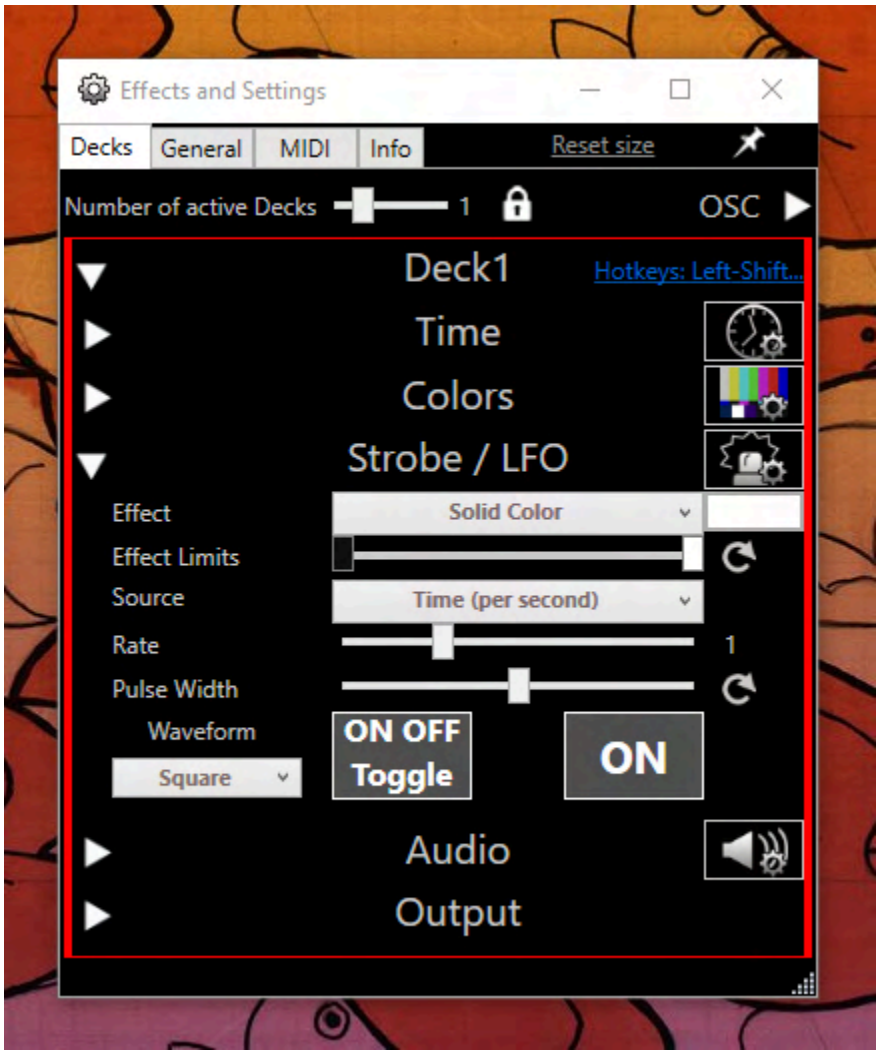
LumaKey: You can key out the darkest or brightest parts of the Deck visuals and then the masked areas are made transparent. The transparency effect will not be visible in the current Deck, but will be effective when mixed on top of another Deck visuals. The black slider knob adjusts the black levels of the lumakey and the white slider knob the white levels of the lumakey. This is useful for mixing together multiple Deck visuals in a unique way, especially since the Milkdrop engine responds really well to content which includes transparency. The blend mode selection is respected, check out the *'FX: Blend Modes'* chapter to learn more.

Red: Adjust how much red colors are in the Deck visuals.

Green: Adjust how much green colors are in the Deck visuals.

Blue: Adjust how much blue colors are in the Deck visuals.

Alpha: Control the amount of transparency. This can be used to fade to black or it can be useful for mixing together multiple Deck visuals, crossfading between Deck visuals, or controlling a feedback loop. Check out the *'FX: Blend Modes'* chapter to learn more.



Strobe/LFO Settings [Midnight + Pro Editions Only]

This section is unique since it allows for other sliders to be automatically controlled by the Strobe/LFO. Anyone who has played with a synthesizer will understand. For example, let's say you want to have the Deck visuals fade to black according to the speed of the BPM. Then you would select “Effect: Alpha” and “Source: BPM” and then tweak the “Rate” to your liking. There are a huge amount of possibilities to explore here, especially when used with the Spout Sprites. Due to technical reasons you won’t see the sliders visibly moving by themselves when controlled by the Strobe/LFO, it’s just happening behind the scenes.

Effect: Determine the slider that should be modulated by the Strobe/LFO. All of the Effects (except for Solid Color) map to the related sliders found within the Desk settings. When “Solid Color” is selected, then a color box will be visible to the right and allow you to select a color.

Effect Limits: Adjust the span of the Strobe/LFO effect. This allows you to determine the minimum and maximum values to be applied to the Strobe/LFO effect. Basically it allows you to decide the strength of the Effect that is applied. The phase of the LFO will reverse if the maximum value is lower than the minimum value.

Source: Select the source of the trigger.

Rate: Determine the frequency rate of the Strobe/LFO. Some examples include the number of flashes per second for the Time Source, or the number of flashes per BPM, or the Volume threshold for Volume, or a frequency band trigger.

Pulse Width: Adjust the ratio of how long the Square waveform is active. Or adjust the shape of the waveform.

Waveform: Select a Square, Sawtooth, or Sine waveform to use for the Strobe/LFO.

ON OFF Toggle: Enable the Strobe/LFO. Left-click to enable or disable it.

ON: Manually enable the Strobe/LFO. It will remain activated only as long as the cursor left-clicks this button.

Audio Settings

You can change the way the visuals react by adjusting the volume level for the bass, mids, and treble frequencies. This allows you to tweak the EQ so that the NestDrop visuals are more reactive to specific parts of the audio spectrum. Although some presets are coded in a way that they only utilize certain parts of the audio spectrum and so for some presets these sliders will make a big difference, and for other presets it will have no effect.

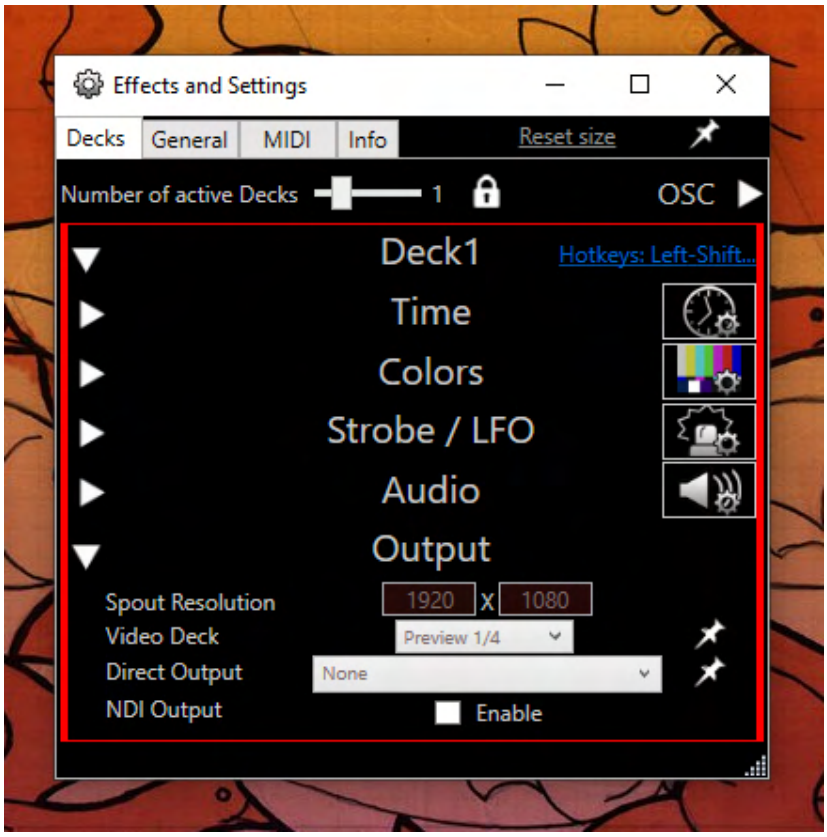
It's important to note that due to the Milkdrop engine implementation, visual reactions to the audio volume are normalized over the course of approximately 5 seconds. So any visual changes reacting to a volume change is temporary. But you can adjust the volume level for short moments, for instance a beat drop.

Channel / Deck Link: Select whether the Stereo channel, Right channel, or Left channel should affect the reactive visuals of the Decks. Checkmark 2, 3, and/or 4 to link these settings across these Video Decks.

Bass: Select the gain for the low frequency response of the Deck visuals.

Mid: Select the gain for the mid frequency response of the Deck visuals.

Treble: Select the gain for the high frequency response of the Deck visuals.



Output Settings

Spout Resolution: Set the resolution of the Spout video stream. Any changes will be instantly implemented to the Spout stream after clicking outside of the resolution textbox. But any change to the aspect ratio will be reflected in the Deck preview window only after restarting the Deck window (just close the Deck window and it will automatically restart).

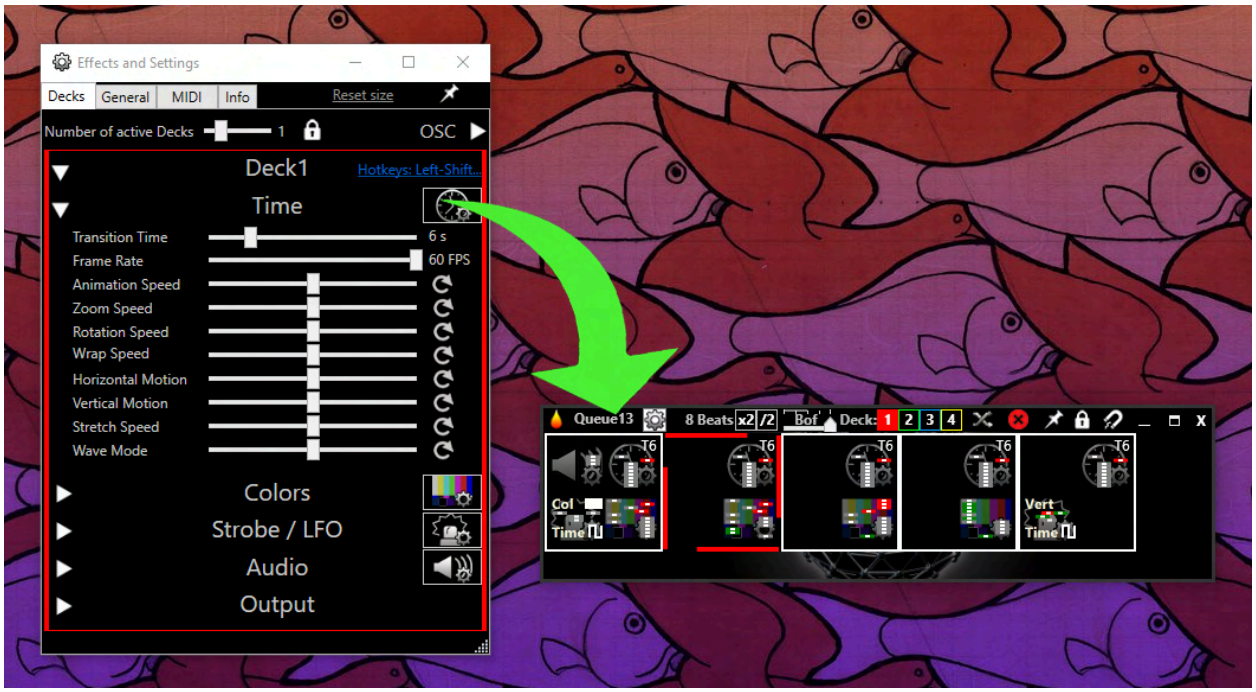
Video Deck: Set the size of the Deck preview window. Any changes will only be reflected in the Deck preview window after restarting NestDrop (just close the Deck window and it will automatically restart). Click the Pin button to always have the Video Deck “always on top”.

Direct Output: To fullscreen the visuals directly from NestDrop, select a monitor from the list and then the visuals will be fullscreened. The display name containing a * is your main display as recognized by Windows (example: DISPLAY3* 1920x1080). If you accidentally select your main monitor, just hit ALT+TAB to focus on the Settings window and then disable the fullscreen. Click the Pin button to always have the fullscreen window “always on top”, which ensures that no other windows can cover the fullscreened visuals. **[Midnight + Pro Editions Only]**

For NestDrop Classic, a good way to fullscreen the visuals is to use the Spout Demo Receiver (located in the Spout folder) and press ‘f’ for fullscreen.

NDI Output: When enabled, an NDI video stream will be output for this Video Deck. An NDI video stream is similar to a Spout video stream except that NDI can function over a local

network connection. This allows you to share an NDI video stream between different computers over the local network. For stability, a wired network connection is highly recommended. NDI can have continuous high data transfer rates and so a wireless network connection can lead to drops in frame rate or missed frames. Also beware of the extra CPU & GPU load when enabling the NDI Output, which can be significant, and expect several ms of latency with the receiver. **[Pro Edition Only]**



Settings Snapshot into a Settings Queue Window

On the right side of the Decks Settings window are 4 buttons:

- *Time Settings Snapshot*
- *Colors Settings Snapshot*
- *Strobe/LFO Settings Snapshot*
- *Audio Settings Snapshot*

If you click-and-drag a Settings Snapshot into a blank queue window, then it becomes a settings queue window and also makes a button for that Settings Snapshot. Each button includes slots dedicated to the 4 types of snapshots mentioned above.
(As shown in the example above.)

This opens up some unique possibilities when performing live, such as allowing you to queue up a series of Settings Snapshots. Also you can use the auto-change to easily change the settings. Basically this allows you to perform with the NestDrop settings in the same way that you do with presets.

- The Transition Time is used to determine how long it should take to interpolate between the current settings and the Settings Snapshot. By default the global Transition Time will be used if a Time Settings Snapshot is not applied to a button. If you click-and-drag the

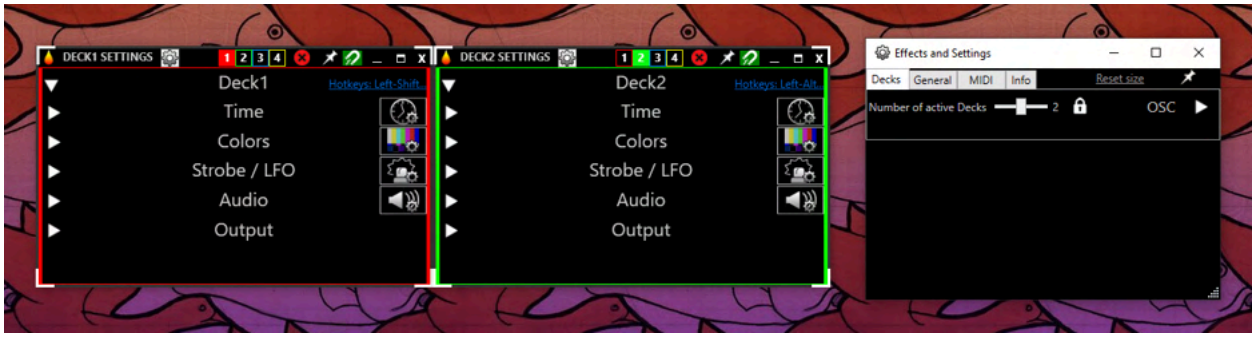
Time Settings Snapshot onto a button in the settings queue window, then the Transition Time is represented in the top-right of the button. For example “T6” would represent a Transition Time of 6 seconds. *(As shown in the example above.)*

- When a button in a settings queue window is activated, colored bars on the side of the button will visualize the Transition Time. *(As shown in the example above.)*
- Some attributes are not included within the snapshot settings such as the Frame Rate and the Audio Channel / Deck Link.
- Even though the Settings Snapshots icons are very small, the information contained within them is a true visual summary of the state of the sliders and user selections.

Settings Snapshot onto a Preset Button

You can also click-and-drag on a Settings Snapshot button over onto one of the four corners of the Preset button within a queue window and it will attach a settings snapshot. *(As shown in the example above.)* This is particularly useful to build variations of a single preset to prepare for different moods in the music. For example: preset with negative colors, preset with a slow LFO, preset with a strobe.

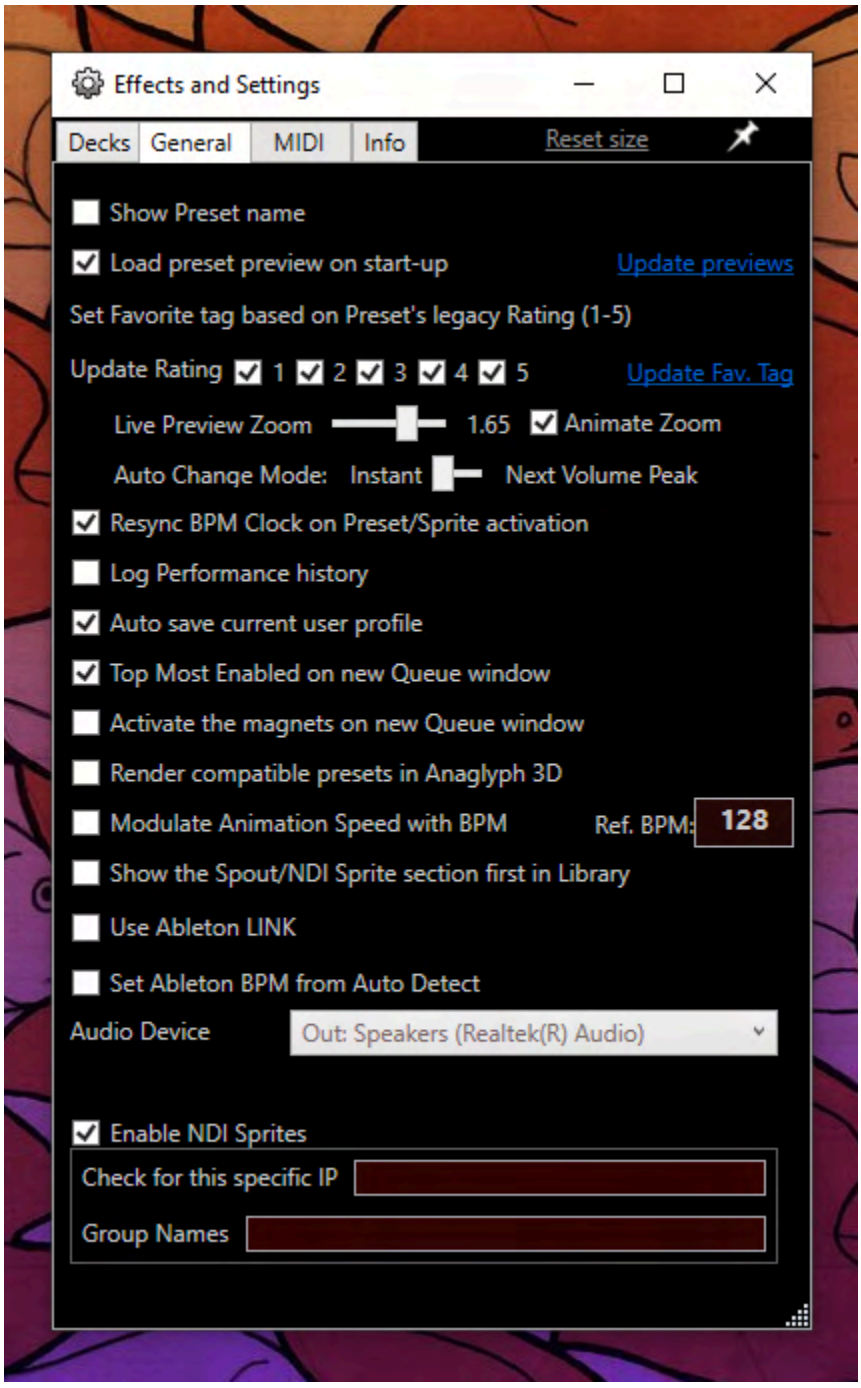
Settings Snapshots can only be applied to preset buttons that are within a preset queue window, not the library window. For this particular use case, it’s important to make the distinction between preset queue windows and settings queue windows.



Move Deck Settings into a Queue Window

You can move each of the Deck Settings panels into an empty queue window. *(As shown in the example above.)* This is helpful for window management particularly when using multiple decks at once and you need easy access to the sliders and the magnet feature.

Simply drag-and-drop the "Deck #" text into an empty queue window and then the Deck Settings panel will be moved over. To remove the Deck Settings panel from a queue window, click the Clear button in the queue window and then it will reset.



General Options

Show Preset name: Show or hide the filenames within the buttons. Presets which do not have a preview image will automatically show the filename.

Load Preset Preview on Start-up: Uncheck to disable the preview images. This will save loading time and reduce memory usage.

Update Previews: Launches an automated process to find Presets which are missing preview images. It will take a screenshot of the visuals after two seconds and then save it as the Preset preview image. More detailed instructions are shown in the confirmation prompt. If you don't enjoy one of the automatically created preview images, then just delete it and run the process again. The automated process will skip over any Presets which already have preview images.

Update Fav Tag: Launches an automated process to scan all presets for the "fRating=" value within the code of each Preset and then create a favorite color tag in NestDrop for each Preset. This is useful if you're an old school Winamp user and you wish to transfer over your favorite ratings into NestDrop. You can checkmark the 1, 2, 3, 4, and/or 5 boxes if you want to analyze only certain "fRating=" values. More detailed instructions are shown in the confirmation prompt. The automated process will skip over any Presets which already have a favorite color tag in NestDrop.

Live Preview Zoom: Adjust the zoom of the live preview. The live preview appears when you move the cursor over a Preset button.

Animate Zoom: Change whether the live preview animates into position when the cursor hovers over a preset button or instead snaps to full zoom.

Auto-Change Mode: Determine if an instant trigger or volume peak trigger will be used.

- **Instant Trigger:** When the 'Beat Threshold' attribute is reached, NestDrop will instantly auto-change to the next preset. So if the music goes into a beat-less section, NestDrop will rely on a memorized BPM to auto-change at a constant rate.
- **Volume Peak Trigger:** When the 'Beat Threshold' attribute is reached, NestDrop will delay the auto-change until a bass volume peak is heard in the music. So if the music goes into a beat-less section, NestDrop will not auto-change until the beat continues. Be advised that the queue window will continue advancing forward, but the presets will only be changed within the Video Deck when a bass volume peak is heard in the music.

Resync BPM Clock on Preset/Sprite Activation: When a Preset or Sprite is activated, resync the BPM progress bar to 0. This allows you to activate a Preset or Sprite for a beat drop and the Beat Threshold will remain in sync with the music.

Log Performance History: If enabled, NestDrop will log all Preset changes into a csv file in the <*PerformanceHistory*> folder. This is helpful if you're curious to know the exact timings and Presets that were used during a performance. Each time NestDrop is opened, a new CSV will be created and the filename will contain the time and date.

Auto Save Current User Profile: If enabled, the current user profile will be automatically saved every 5 minutes. The autosave follows a schedule (9:00pm, 9:05pm, 9:10pm…) and uses the system clock. But if there are no changes to be autosaved then the schedule is skipped.

Top-Most Enabled on new Queue Window: If enabled, new queue windows will open with the pin button (always on top) activated by default.

Activate the magnets on new Queue window: If enabled, new queue windows will open with the magnet button activated by default.

Render Compatible Presets in Anaglyph 3D: If enabled, a cyan/red stereoscopic filter will be applied to presets that do not utilize any Composite Shader code. You will need to wear anaglyph glasses to experience the 3D effect.

Modulate Animation Speed with BPM: If enabled, every time the BPM changes then the Animation Speed slider of all Decks will be set to a new value based on this formula:
Animation Speed = New BPM / Reference BPM

Show the Spout Sprite section first in Library: If enabled, the Spout Sprite section will be moved to the top of the Library window. This is for people that use the Spout Sprite heavily and want it to be easily accessible. **[Midnight + Pro Editions Only]**

Use Ableton LINK: If enabled, NestDrop will search the local network for a Ableton LINK musical session and then automatically join it. The BPM value and amount of peers will be shown in the BeatBar. Also the BPM Mode will change to “LINK” in the BeatBar. **[Pro Edition Only]**

Set Ableton BPM from Auto Detect: By default NestDrop will not adjust the BPM for other peers in the Ableton LINK musical session. But if you want to use the NestDrop beat detection and continuously share it with the other peers in the Ableton LINK musical session, then enable this option. **[Pro Edition Only]**

Audio Device: Select an audio device that you want NestDrop to use for the reactive visuals. This allows you to select a webcam, microphone, audio interface, or any device and have it drive the NestDrop visuals. Note the change will only be reflected after the Decks are restarted (just close the Deck window and it will automatically restart). If this option is left unchanged then NestDrop will use whatever is listed as the Windows default audio output. Check out the *‘Audio Source’* chapter for more info. **[Midnight + Pro Editions Only]**

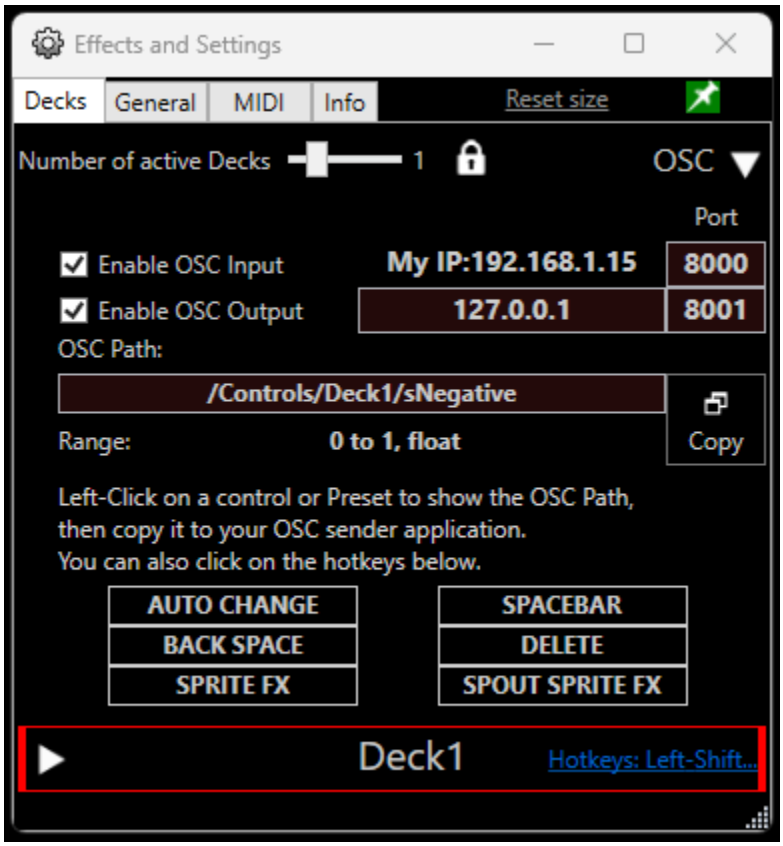
Also here is a useful hack if you are using multiple Decks and yet want to have each Deck driven by a different audio device. Choose an audio device (line-in 1) and start Deck 1. Then change the audio device (line-in 2) and start Deck 2. You will need to follow this procedure each time NestDrop is started up.

Enable NDI Sprites: If enabled, then the NDI Sprites can be activated. Check out the *‘NDI Sprites’* chapter for more info. **[Pro Edition Only]**

- Check for this specific IP: Extra IP addresses, comma separated (ex: '12.0.0.8,13.0.12.8') for machines located outside the local network. Each local machine

runs a service on port 5960, this allows sources to be discovered on those IP addresses without needing mDNS to discover it.

- Group Names: This is the list of groups that the receiver pretends to be part of. Each group is comma separated. If groups are not specified then it will be part of the 'public' group.



OSC Options [Pro Edition Only]

Enable OSC Input: If enabled, OSC inputs will be processed by NestDrop.

Enable OSC Output: If enabled, NestDrop will send messages via OSC. Check out the *'OSC Output'* chapter for more info.

OSC Path: Left-click on any button, slider, or Preset to show its OSC path. Then you can copy the OSC Path over to your OSC sender application (such as TouchOSC or Resolume Wire).

MIDI Options [Midnight + Pro Editions Only]

In this window you can setup a MIDI controller and use the MIDI pads & keys to trigger Presets, Sprites, Spout Sprites, Text buttons, and Settings Snapshots. You can also use the MIDI knobs & sliders to control the Deck Effects sliders and Sprite FX. You can use multiple MIDI controllers in tandem within NestDrop.

Setup a MIDI Controller to use in NestDrop

1. Plug in a MIDI controller into the computer. Make sure it appears within the MIDI Device section.
2. Drag-and-drop a MIDI Device into an empty Queue window.
3. Trigger the pads, piano keys, knobs, or sliders on your physical MIDI controller and it will be auto detected.
4. Ready to MIDI map! Drag-and-drop Presets, Sprites, Text, or Settings Snapshot buttons onto the MIDI Note buttons (N:) in the MIDI Queue window.
5. You can map the Deck Effects by drag-and-dropping the MIDI Control buttons (C:) onto the sliders in the Settings window.

6. If a MIDI Clock is detected, then it will appear in the MIDI queue window. Drag-and-drop the MIDI Clock onto the BPM label (in the library window) to link it for the auto-change feature. Also the BPM Mode will change to “MIDI” in the BeatBar.

MIDI Buttons

For a pad or piano key assignment, a MIDI Note label (N:#) and MIDI channel # is shown in the top-left of the button. The last detected MIDI velocity (0-127) is shown in the top-right.

For a knob or slider assignment, then a MIDI Control label (C:#) and MIDI channel # is shown in the top-left of the button. The last detected MIDI Control value (0-127) is shown in the top-right. The slider name is shown in the bottom-left.

MIDI Devices

You can instantly plug in and use any MIDI controller which is recognized by Windows. If your MIDI controller has its own proprietary driver, then it must be installed prior to opening NestDrop.

MIDI Thru to this Output Device

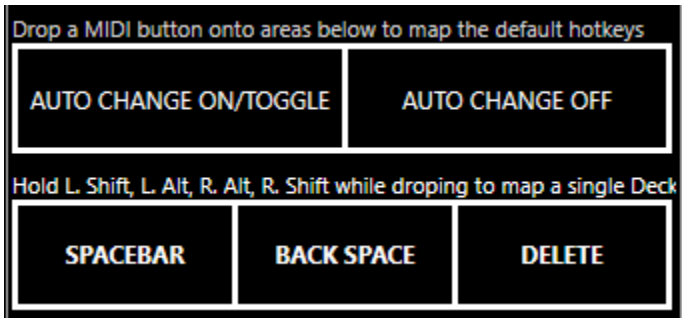
If you have MIDI messages routed into NestDrop and you would like to have other software also receive these MIDI messages, then you can select an output device here and use it within the other software.

Hardcut Threshold

If your MIDI controller has pads or keys that are velocity sensitive, then you can modulate the velocity value by pressing hard or soft. A preset hardcut will occur if the MIDI Note Velocity is above the set threshold. If below, then the Transition Time is used instead. In other words, if you hit a pad hard then the Preset will transition instantly. If you hit a pad softly then the Preset will transition using whatever you’ve chosen for the Transition Time. To disable this feature, just push this slider to the maximum value and it will always use the Transition Time, or to the minimum value to always use the hardcut.

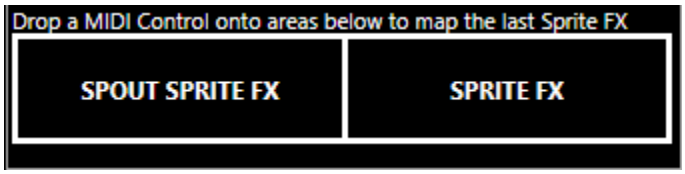
Drop a MIDI button onto areas below to map the default hotkey

After you’ve setup your MIDI controller in NestDrop, then you can drag-and-drop a MIDI Note button (N:) onto one of the areas below. This allows you to use a pad on your MIDI controller to trigger the default hotkeys. If you wish to target a specific Deck # for the hotkey mapping, then you can hold left-Shift, left-Alt, right-Alt, or right-Shift while dropping the MIDI Note button.



Drop a MIDI Control onto areas below to map the last Sprite FX

After you've setup your MIDI controller in NestDrop, then you can drag-and-drop a MIDI Control button (C:) onto one of the areas below. This allows you to use a knob on your MIDI controller to quickly cycle through the FX options. Whichever Sprite button was last active will be targeted for the MIDI map.



Activate a Queue Window using a MIDI Button

You can activate a specific queue window by using the MIDI controller. This can be achieved by drag-and-dropping a MIDI Control button (C:) onto the title bar of a queue window. Now when you hit the MIDI button then the active state of the queue window will be toggled.

Resync the Beat Threshold Progress using a MIDI button

You can resync the Beat Threshold Progress by using the MIDI controller. This can be achieved by drag-and-dropping a MIDI Control button (C:) or MIDI note button (N:#) onto the BeatBar.

Use MIDI BPM

You can use the BPM from your MIDI device if a MIDI button with the keyword "Clock" appears instead of N: or C:. This can be achieved by drag-and-dropping this MIDI button into the BPM Label. To disable the MIDI BPM mode, drag-and-drop the "Clock" MIDI button into the library to unlink them.

Stop MIDI Mapping

If you're done MIDI mapping and want to prevent new MIDI triggers from automatically being added into the queue window, simply click the lock button in the top-right of the queue window.

Info Options

Check for Version Log: Clicking this text will open up a web browser window to the changelog webpage. You can manually compare the version number in your Settings window against the latest version listed in the changelog.

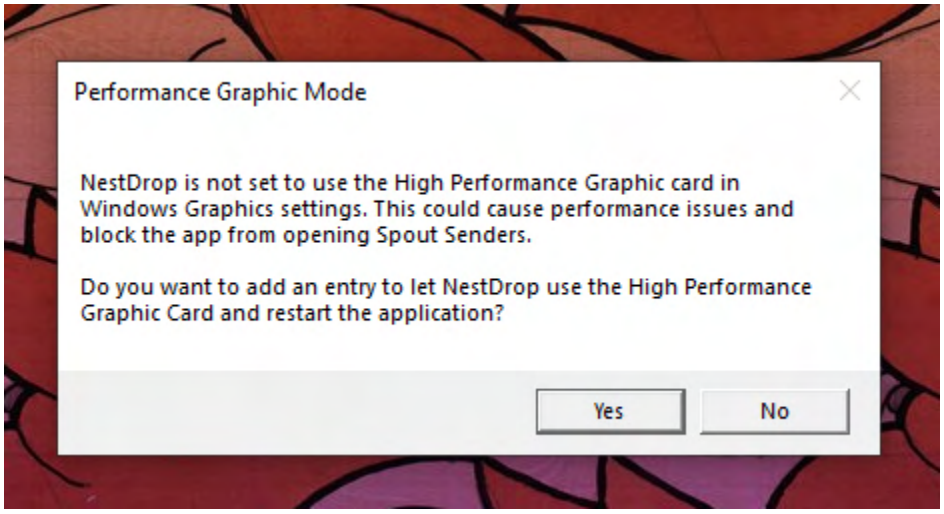
Download Site: Clicking this text will open up a web browser window to the download webpage containing the latest version of NestDrop.

Have a question? Join us over on the Reddit community dedicated to NestDrop.

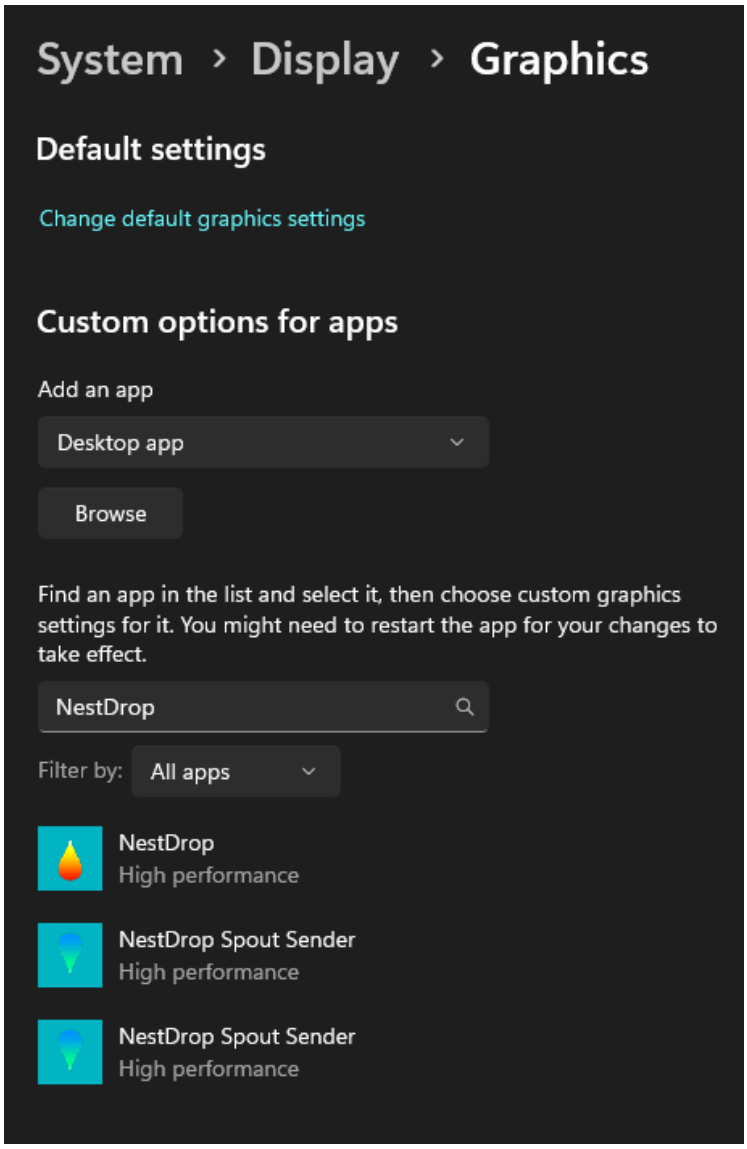
Performance Graphic Mode

If you have multiple GPUs installed in your computer, then you will see a special prompt when NestDrop starts up for the first time. *(As shown in the example below.)* It's vital that NestDrop and Resolume (or your VJ software of choice) be rendered on the same GPU so that the Spout video stream can be shared between the apps. For example, many laptops utilize an APU chip (CPU+GPU) and also a discrete GPU and so this can sometimes lead to NestDrop rendering on one GPU, while Resolume is rendering on a different GPU, which means that the Spout video stream cannot be shared between the apps.

- Hopefully the "Performance Graphic Mode" prompt will solve the issue for you.
- If not, then please ensure that you have the latest GPU driver installed.
- But if you're still running this issue, or seeing the "Cannot Create DirectX/OpenGL Interop" error prompt, then please watch this video tutorial.



If you need to rollback to the default settings in Windows, you can edit or remove the three NestDrop entries in your system Graphics Settings. *(As shown in the example below.)*



Default Hotkeys

Spacebar: trigger next preset in the active queue
Enter: trigger next preset in the active queue with hardcut
Backspace: trigger prior preset in global history
Delete: trigger prior sprite in global history
Double-click on queue window title bar to make it active
Tab / Shift+Tab: cycle through queue windows
Esc: clear the search, hotkey textbox, fav filter, stop preview capture
Caps Lock: enable/disable the auto-change
Ctrl: bypass transition time for an instant hardcut
(ctrl+spacebar, ctrl+backspace, ctrl+delete, ctrl+hotkey, ctrl+click)
Ctrl+Mouse wheel: scroll over a Preset button to change animation speed
Ctrl+Mouse wheel: scroll over a Sprite/Text button to apply FX
Ctrl+C: copy the directory path of the active Preset of Deck 1
Left-CTRL + Left-SHIFT + [1-5]: apply favorite 1-5 to active Preset of Deck 1

Deck 1 Hotkeys *(red)* /// left-Shift

- Trigger a Preset: left-click OR left-Shift+click
- Trigger a Preset using hotkey: hotkey OR left-Shift+hotkey
- Trigger the prior Preset: Backspace OR left-Shift+Backspace
- Trigger a Sprite: left-click OR left-Shift+click
- Find-Active-Preset button: left-click OR left-Shift+click

Deck 2 Hotkeys *(green)* /// left-Alt

- Trigger a Preset: right-click OR left-Alt+click
- Trigger a Preset using hotkey: left-Alt+hotkey
- Trigger the prior Preset: left-Alt+Backspace
- Trigger a Sprite: right-click OR left-Alt+click
- Find-Active-Preset button: left-Alt+click

Deck 3 Hotkeys *(blue)* /// right-Alt

- Trigger a Preset: right-Alt+click
- Trigger a Preset using hotkey: right-Alt+hotkey
- Trigger the prior Preset: right-Alt+Backspace
- Trigger a Sprite: right-Alt+click
- Find-Active-Preset button: right-Alt+click

Deck 4 Hotkeys *(yellow)* /// right-Shift

- Trigger a Preset: right-Shift+click
- Trigger a Preset using hotkey: right-Shift+hotkey
- Trigger the prior Preset: right-Shift+Backspace
- Trigger a Sprite: right-Shift+click
- Find-Active-Preset button: right-Shift+click

Deck Hotkey Helper

If you hold down the left-Shift hotkey, then you will notice that the red star and hotkey box turns red. The same result will happen for the other Deck related hotkeys (left-Shift: red, left-Alt: green, right-Alt: blue, right-Shift: yellow). This is provided as a helpful reminder for when you are in doubt. But if you find that you still cannot remember the Deck related hotkeys, perhaps add some physical stickers onto your computer keyboard or a paper note beside your monitor.

It's worth mentioning that the favorite colors and the Deck colors are not linked. Meaning that although they indeed share the same colors, favoriting Presets will have no effect on which Deck a Preset will be triggered to.

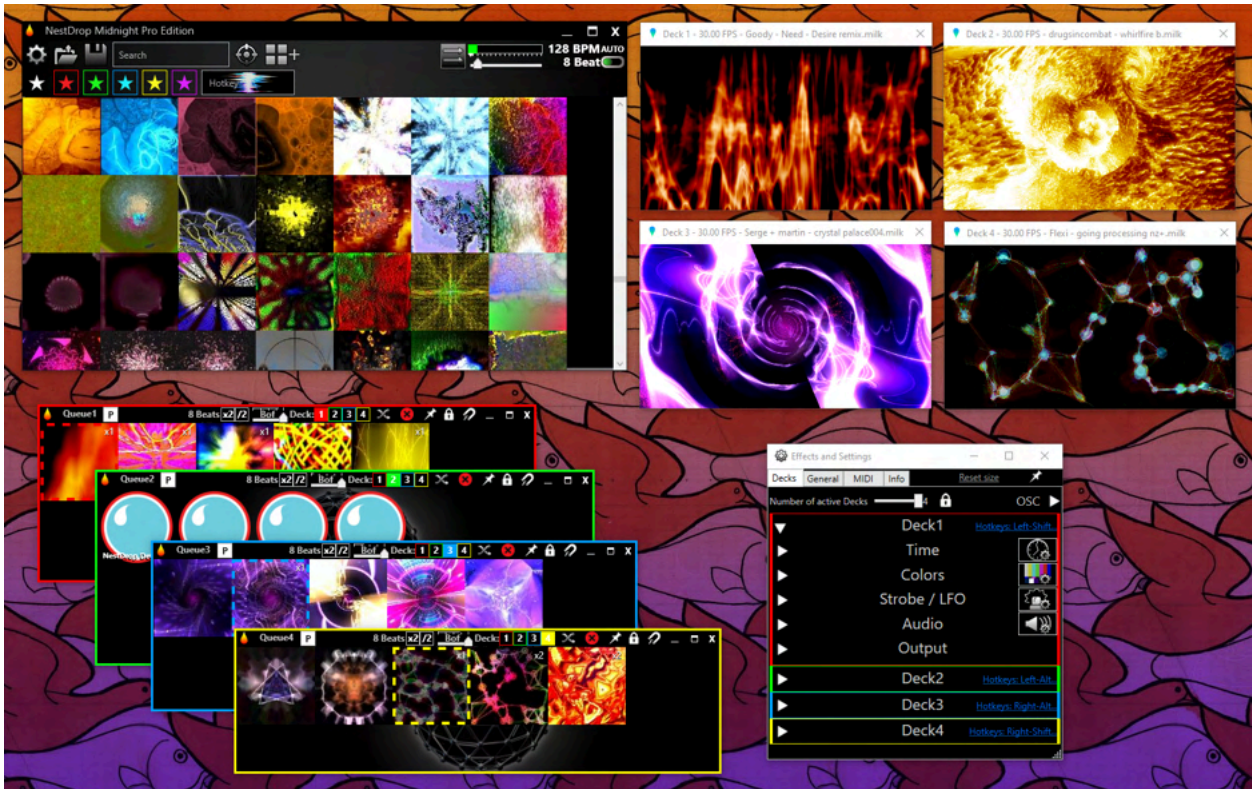
Video Decks

Up to four Decks can be running at the same time, with each Deck rendering unique visuals.

This enables several different types of setups:

- **Direct Visuals:** Run a single Deck. What you see in Deck 1 will be your main output. Sometimes simple is best.
- **Cue Visuals:** Similar to how DJ's use a private headphone mix to cue the music. You can run two Decks. Use Deck 1 as your main output and use Deck 2 to privately preview the visuals. This is made easy since you can left-click on a Preset to trigger to Deck 1 and right-click to trigger to Deck 2.

- **Mix Visuals:** Run two Decks and then mix together Deck 1 and Deck 2. This can be achieved by using the Spout Sprite buttons, Alpha slider, LumaKey slider, Strobe/LFO, and FX Blend Modes. **[Midnight + Pro Editions Only]**
- **Unique Visuals for each Projector:** If you have several projectors and want each screen to have unique visuals. Run up to four Decks at the same time.
- **Projection Mapping:** If you want different surfaces to have unique visuals for projection mapping. Run up to four Decks at the same time and use their individual Spout video streams to route them into your mapping software.



NestDrop_SpoutSender.exe is the render engine.

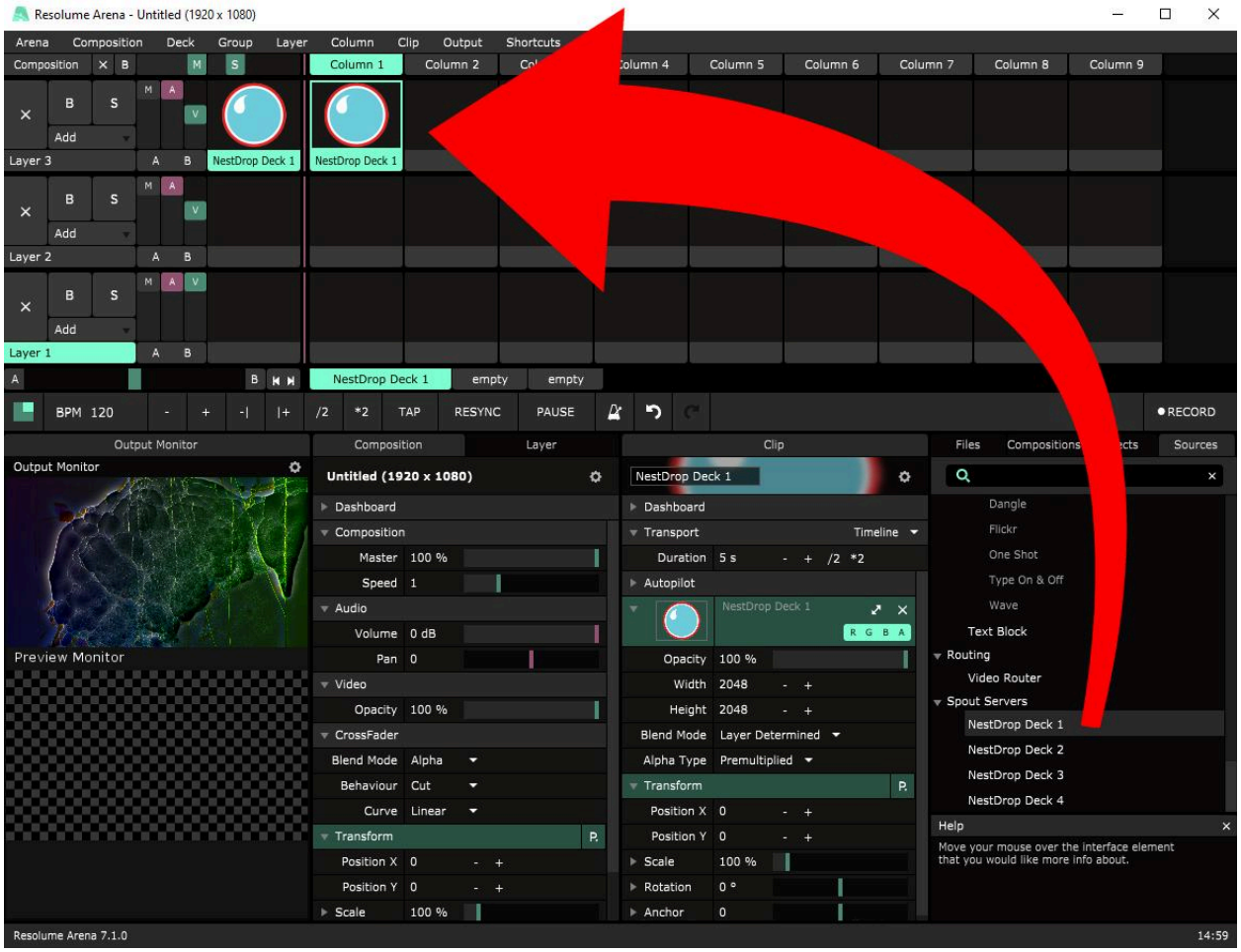
- This Deck window is not only for you to preview the visuals, it also outputs a Spout video stream. Spout utilizes DirectX11 GPU texture sharing and allows you to easily link the visuals into other software, such as Resolume or NestMap. Any software which supports Spout can ingest this video stream.
- Beware that since NestDrop_SpoutSender.exe is the main render engine, closing this window will also shut down the Spout video stream. That's why we added a confirmation prompt to protect against accidentally quitting it.
- Due to technical reasons, when you move a Deck Window then the visuals will freeze while it's being moved. So find a cozy spot for the Decks and don't move it again.
- The active preset name and real time rendering frame rate is visible within the Deck title bar.

Various apps which support Spout and is compatible with NestDrop:

- SpoutReceiver.exe *(included with the default install of Spout)*
- Resolume
- NestMap
- TouchDesigner
- MadMapper
- OBS (with the OBS Spout Plugin)
- And all other apps listed on the Spout website

How to use a Spout video stream within Resolume

Open the ‘Sources’ panel and scroll down to the ‘Spout Servers’ section. You should see ‘NestDrop Deck 1’ listed. Drag-and-drop ‘NestDrop Deck 1’ into the clip buttons grid.



Audio Source

Be sure to first read the 'Audio Device' chapter above to learn how to have an external audio source drive the NestDrop visuals.

You absolutely need an audio source to drive the NestDrop visual reactions. NestDrop is at its core a music visualizer. So in the absence of music, the visuals will appear boring and static. A live audio source is ideal but you can also playback music from any media player. So it really depends on the context of your performance setup:

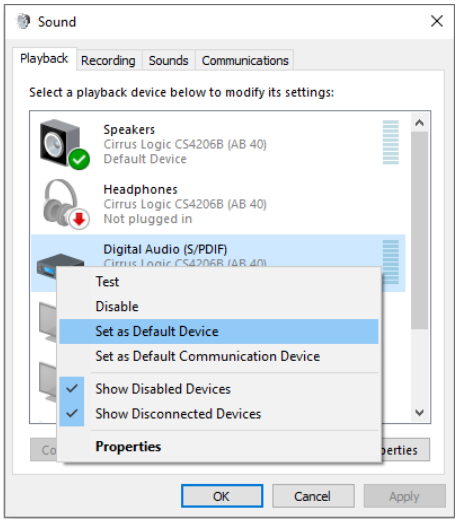
- If you're performing during live music then you'll ideally want to get a feed from the sound engineer. Or use your webcam mic if the signal isn't too hot.
- But if the sound engineer will not provide a live mix… You could create quite literally your own personal music mix only for the visuals, never to be heard. By using Ableton Live with a random dance music mix, you can then use the tap-tempo in Ableton Live to match the live music tempo and use it to drive the visuals. Although this creates another layer of things to maintain while performing.
- If you don't need to have visuals react precisely to the beat, then you can instead playback music from any media player (such as VLC or iTunes). This is particularly useful for when you want to have passive background visuals by playing back beat-less music that has an evolving drone character.

48kHz Sampling Rate

Important: The Video Decks are designed to use an audio sampling rate of 48kHz. Using a different sampling rate could result in a loss of frequency response or a complete non-reaction to the audio. If you suspect a problem in visual reactivity then check the sampling rate of your Audio Device.

Choose the Audio Output

In most cases this functions automatically. By default, NestDrop uses an internal audio loopback technique which listens to the default audio output. But you can change the default audio output by going into the Windows 'Sound Control Panel', go to the 'Playback' Tab, right-click on the device you want to use and select 'Set as Default Device'. Note that the change will be reflected only after the Decks are restarted (just close the Deck window and it will automatically restart). Not all drivers support internal loopback (such as Realtek) and an alert prompt will warn you of this aspect. In this case you must use a different audio device which is not using the same problematic driver.

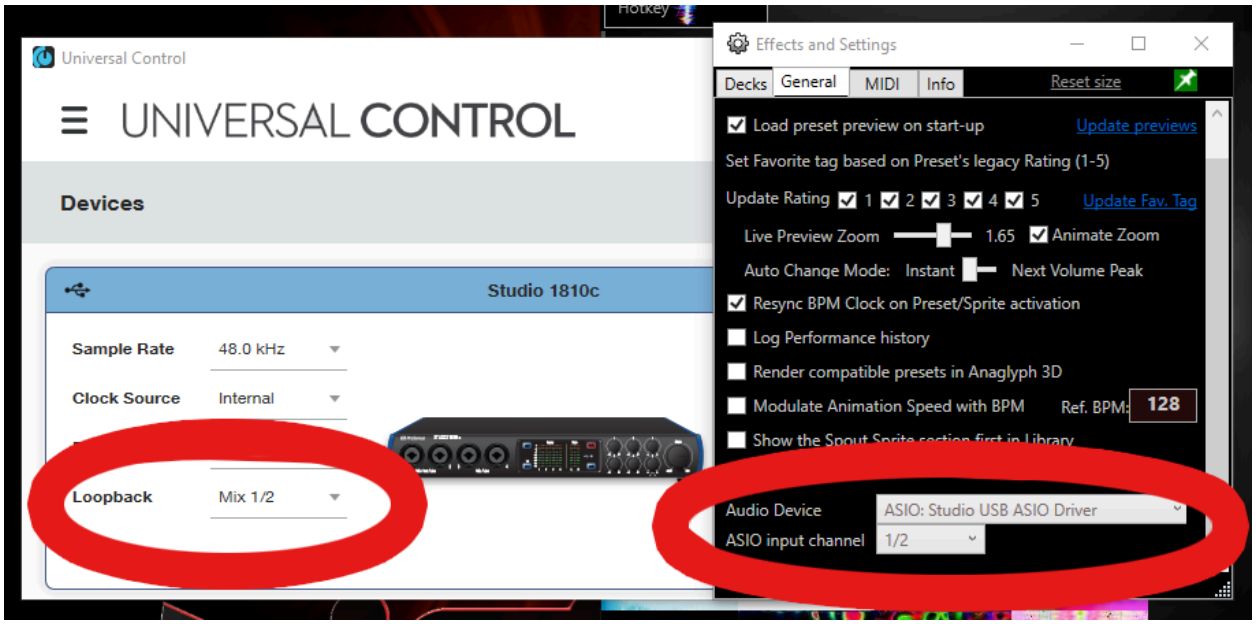


How to use a Specific Audio Device

- If you're using NestDrop Midnight or Midnight Pro, then you can select any compatible audio device within the Settings window (as seen within the 'Audio Device' chapter).
- If you're using NestDrop Midnight Pro, then you have access to the ASIO drivers. Once selected, another option lets you choose which pair of inputs you want to use for the Left and Right channels.
- If you're using NestDrop Classic, then it's still possible to use a specific audio device by adjusting the Windows sound settings and instead sending the audio input directly to the default audio output. Here's a tutorial showing how to do it.
    - This technique even works with a live audio input. But be careful, if you're using a microphone to capture live audio then it's important to mute your speakers or you could possibly create a dangerous feedback loop. Or you can change the Windows default audio output to an option that has no physical speaker, such as a secondary monitor. This is especially vital if your computer is connected to a large sound system where the speakers could be damaged.
- On some computers, when you plug a cable into the sound card or headphone jack then the system will automatically update the audio device. So we added an alert prompt that informs the user of this change and asks if NestDrop should restart the Video Decks, otherwise the visuals might not react to the correct audio device.

Special note for ASIO drivers:

- Some ASIO drivers don't allow multiple applications to use the same device. Since each Video Deck and the live preview act as independent applications, the loading priority is for the Deck1 and the other Deck could not be able to use the ASIO device.
- Note that only ASIO inputs can be used since there is no "Loopback" feature for ASIO devices. But you can make a wired loopback by connecting your device outputs to inputs with an audio cable, or some professional ASIO drivers allow a Virtual loopback for some devices (see picture below)



Advanced Features

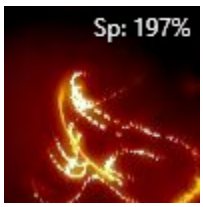
Presets

What is a Preset?

Milkdrop is an environment dedicated to realtime music visualization, but it does not produce visuals by itself. The visuals are generated by user-created presets which are most frequently created in Winamp (using the Milkdrop plugin). Presets use the <.milk> file format, can be opened up in a text editor, and are easy to distribute since each file is only a few kilobytes. Since Winamp was a popular MP3 player and Milkdrop was bundled with it, a community of people became obsessed with making original presets, doing preset mashups, and sharing them on the Milkdrop forums. So this is why there are over 52,000 presets after the launch of Milkdrop in 2001.

Assign a unique Animation Speed to each Preset

Within the settings window is an ‘Animation Speed’ slider. But you can also apply an individual animation speed to each preset button. This assignment will multiply against the animation speed attribute found in the Settings window, creating even faster or slower speeds.



To apply a unique animation speed to a single Preset button, hover the cursor over a Preset button, hold the CTRL key and then scroll the mouse-wheel to change by increments of 2%. Alternatively you can hold the CTRL+ALT key and scroll the mouse-wheel to change by increments of 6%. When a unique Animation Speed is applied a preset button, then the (Sp:##%) is shown in the top-right of the button, replacing the ‘Activated Counter’.

The Live Preview will take into account the unique Animation Speed, but not the Global Speed, just so that you can get an idea of the result prior to activating it. Simply move your cursor away and hover back over the button to see the Live Preview updated.

Of course the same limitation exists and the Animation Speed will only function if the preset utilizes code related to Animation Speed.

Install your own Presets

You can import your own Presets by placing them into the NestDrop Presets folder: *<NestDrop/Plugins/Milkdrop2/Presets>*

The presets within this folder will be indexed and automatically shown within the NestDrop library window. Only the *<.MILK>* preset file format is supported. Check out the *‘Preset Organization’* chapter for more details about the optional folder structure.

This manual doesn't cover how to create or edit Presets since NestDrop doesn't offer those tools within and is dedicated to the visual performance aspect. Please use Winamp v5.66 to create, edit, or mashup your own Presets. For more information about Preset editing, please refer to the Official Documentation or this Preset Mashup Tutorial. Also check out MilkDrop2077 which is an automated mashup tool to discover new presets.

Preset Preview Images

Each Preset can have an accompanying preview image, which is automatically used for the button background in NestDrop. An image of 150x150 pixels is recommended and only the JPG format is accepted. The JPG must have the exact same filename, but with *.JPG* extension instead of *.MILK* extension. You can also use the "Update Previews" tool in the Settings window to automatically generate JPGs.

Image Sprites

What is an Image Sprite?

Image Sprites allow you to display any image within the Deck visuals. By applying FX to a Sprite you can change how the image interacts and affects the generative visuals. This gives you lots of creative freedom to bring in your own content and jam with it in new ways. All available images are automatically listed within the Image Sprite category of the NestDrop library window.

Activating a Sprite

To quickly activate a Sprite directly into a Deck, you can simply left-click on a Sprite button. As you hover over a Sprite button, then you will see Overlay and Nested text within the top and bottom parts of the button. If you click on the 'Overlay' top-half of the button then it will show the Sprite on top of the rendered visuals. If you click on the 'Nested' bottom-half of the button then it will embed the Sprite within the actual render process.

When you drag-and-drop a Sprite into a queue window, then the selected Overlay/Nested state will be saved into the button of the queue window. When this button is activated then it will use the user-determined state of either Overlay or Nested.

You can activate up to 30 Sprites simultaneously by holding the CTRL key while clicking a Sprite button. You can even activate the same Sprite multiple times.

You might notice that the first time an Image Sprite is activated, then the Deck visuals will freeze for a moment while the image is being loaded into memory during this short time. So if you wish to avoid this freeze, then prior to performing you should manually activate each Image Sprite that you wish to use. There is a dedicated memory bank for Image Sprites which holds up to 256 images.

Activating a Sprite only for the Live Preview

You can activate a Sprite specifically for the Live Preview by using the following hotkey: Left-ALT + Left-SHIFT + Left-mouse-click on an Image Sprite or Spout Sprite.

A white dashed line will appear around the Sprite indicating it's now linked to the Live Preview. This feature is useful when using the "Update Previews" tool with Presets which require use of an Image Sprite or Spout Sprite (such as the Spout Jamming Preset Pack).

Apply FX to a Sprite

The FX allow you to apply different animations and blend modes to a Sprite. The "FX:00" is the default until the user applies a different FX.

You can quickly try out different FX by hovering the cursor over a Sprite button, hold the CTRL key, and then scrolling the mouse-wheel. Another technique to apply FX is to type in a number (00, 01, 02 … 99) into the Hotkey textbox and then drag-and-drop it onto a Sprite button.

When FX are applied to a Sprite, then the *(FX:##)* is shown in the top-right of the button, replacing the 'Activated Counter'.

FX: Blend Modes

There are several different blend modes available for the FX. For the FX that are included with the default NestDrop install, we have only utilized blend mode 3 and blend mode 4. In our opinion these are the most useful blend modes to perform with.

- **Blend mode 0 /// Blend:** The image is multiplied by (r,g,b) and then blended, where alpha ('a') decides the amount to blend.
- **Blend mode 1 /// Decal:** The image is multiplied by (r*a,g*a,b*a) and then pasted onto the background, with no transparency. Alpha ('a') values below 1 will modulate the color of the sprite, making it darker.
- **Blend mode 2 /// Additive:** The image is multiplied by (r*a,g*a,b*a) and then added onto the background, making it brighter. Alpha ('a') values below 1 will make the sprite darker.
- **Blend mode 3 /// SrcColor:** The amount to blend each pixel with the background is equal to the inverse of the pixel's color. Similar to the well known "screen" blend mode used in Photoshop. White is fully visible, black will be completely transparent, and any in-between colors are blended based on their brightness.
- **Blend mode 4 /// ColorKey:** Pixels that match the color specified in the colorkey are drawn transparently, and all other pixels are drawn opaquely, much like a green screen (chroma key). If the 'colorkey' code is removed or commented out, then the image will be completely opaque. Although the transparency in a PNG is always utilized. The Spout Sprites will ignore the 'colorkey' code when this blend mode is used.
- **Blend mode 5 /// Unknown Function:** Seems to do something! It's mysterious.

Since applying a color key is demanding of resources and could cause a temporary freeze of the visuals, NestDrop will inhibit any color key change if the Sprite is currently active and you are exploring the FX by scrolling the mouse-wheel. NestDrop will then use the color key of the selected FX the next time the Sprite is activated again, causing a visual freeze if the new color key is different.

Link a Sprite to a Specific Preset Button

You can link a Sprite to a specific Preset by drag-and-dropping a Sprite onto one of the four corners of the Preset button. You can put up to 4 Sprites onto the same Preset button. Although this is only possible within a queue window. The two top positions use the 'Overlay' function to show the Sprite on top of the rendered visuals. The two bottom positions use the 'Nested' function to embed the Sprite within the render process. *(As seen in the example below.)*

Install your own Images

You can import your own images by placing them into the Sprites folder:
<NestDrop/Plugins/Milkdrop2/Sprites>

The images within this folder will be indexed and automatically shown within the Sprite category of the NestDrop library window. JPG and PNG (with transparency) file formats are supported. Check out the *'Preset Organization'* chapter for more details about the optional folder structure.

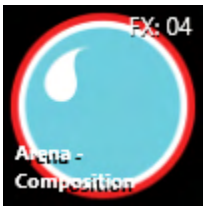
Edit the FX

The Image Sprites have their own unique collection of FX, which can be found in the *<NestDrop/Plugins/Milk2_img.ini>* file. You can edit the FX or create your own by editing this file. Also this file can be edited while NestDrop is open, you just need to re-trigger the Sprite after saving the INI file.

To learn more about the Sprite FX, check out the original Milkdrop documentation.

Spout Sprites

What is a Spout Sprite?



Spout Sprites have all of the same features as the Image Sprites explained above, but the main difference is that instead of using a static image, they utilize a realtime Spout video stream. This includes the NestDrop Deck Spout video streams and also any other Spout video streams created by other applications. All available Spout video streams are automatically listed within the Spout Sprites category of the NestDrop library window.
[Midnight + Pro Editions Only]

This enables some useful setups:

- Mix together different Decks directly in NestDrop.
- Crossfade between different Decks directly in NestDrop.
- Create a feedback loop within a single Deck in NestDrop.
- Playback a video in Resolume and see it interacting with the active Preset within a NestDrop Deck. Check out video tutorial 1 or video tutorial 2 to learn more.
- Inject a live webcam video feed from OBS into Nestdrop. Check out this video tutorial to learn more.

To achieve these setups, there are two important aspects to pay attention to:

1. The FX have several different blend modes available, as explained above. So depending on the FX that you've applied to the Spout Sprite, it will have a specific blend mode applied and it will drastically change how the visuals can be mixed together. For instance, blend mode 4 is useful if you want to crossfade between different Deck visuals. Also the 'burn' attribute can make a difference in whether the Sprite is overlaid on top of the visuals or affects the visuals behind it. To better understand what each of the FX are doing, open up the <*NestDrop/Plugins/Milk2_spt.ini*> file and read the descriptions.
2. When mixing Video Decks together, experiment with the 'Spout Sprite Alpha' slider of the source Deck within the Settings window. You can use this slider to control the amount of transparency of the Spout Sprite of the injected Deck. Due to a limitation in the Milkdrop engine, the 'Spout Sprite Alpha' slider will not be effective if you're using an FX with blend mode 3.

Video Feedback Loop within a single Deck

NestDrop will recognize if a Spout Sprite is being activated into itself to create a video feedback loop. In this case, the Spout Sprite Alpha slider values are rescaled so as to provide more accuracy on the high end of the slider. Video feedback loops are very delicate to control and this helps to tame it.

Edit the FX

Spout Sprites have their own unique collection of FX, which can be found in the *<NestDrop/Plugins/Milk2_spt.ini>* file. You can edit the FX or create your own by editing this file. Also this file can be edited while NestDrop is open, you just need to re-trigger the Sprite after saving the INI file.

NDI Sprites

What is a NDI Sprite?

NDI Sprites utilize a realtime NDI video stream. All available NDI video streams are automatically listed within the NDI Sprites category of the NestDrop library window.
[Pro Edition Only]

NDI Settings

If you need to set specific IP addresses or set Group Names for the NDI video stream, then check out the *'General Options'* chapter for more info.

Edit the FX

NDI Sprites have their own unique collection of FX, which can be found in the *<NestDrop/Plugins/Milk2_ndi.ini>* file. You can edit the FX or create your own by editing this file. Also this file can be edited while NestDrop is open, you just need to re-trigger the Sprite after saving the INI file.

Technical Notes

Because NDI can be very resource intensive, especially when using multiple NDI video streams, we've implemented safeguards to avoid bottlenecking the system resources. Within the NDI protocol there are two modes: preview and full. Preview is a low resolution video feed (720x360) and uses very low network bandwidth and so it's used for the Live Preview in NestDrop. After hovering the mouse over an NDI Sprite button for the first time then it will take 2 seconds until the preview feed is visible. Then when you activate the NDI Sprite, it will start the full resolution video feed, but there is a delay of 0.5 to 2 seconds to get the feed initialized. So to keep NestDrop feeling snappy for the user, as soon as the NDI Sprite is activated by the user then the preview feed will be used within the Deck visuals and then it will automatically switch to full resolution feed when it's ready. Also after you've deactivated the NDI Sprite then the full resolution NDI video feed will remain primed for 30 seconds.

Visualize Text

Enter text in the hotkey textbox and press the Enter key to see the text visualized within the Desk visuals. Also the Deck Hotkeys can be used to visualize text into a specific Deck #.

Add Text Messages into a Queue Window

You can add text messages into an empty queue window and have it become a button that can be activated repeatedly. Simply type some text into the hotkey textbox and then hold the CTRL key while drag-and-dropping the text into an empty queue window. Text buttons can make use of hotkeys, comments, FX, and MIDI. Also you can CTRL+mouse-wheel to scroll through FX.

Edit the FX

Text messages have their own unique collection of FX, which can be found in the *<NestDrop/Plugins/Milk2_msg.ini>* file. You can edit the FX or create your own by editing this file. Also this file can be edited while NestDrop is open, you just need to re-trigger the button after saving the INI file.

Textures

Within the *<NestDrop/Plugins/Milkdrop2/Textures>* folder is a collection of images that certain Presets use when rendering the visuals. These images are not directly accessible by the user within NestDrop and are hidden behind the scenes.

But if you download a Milkdrop Presets pack, then they often include a folder of images. Move these images into the NestDrop Textures folder to ensure that the Presets render correctly.

If there is an image within the Texture folder that you dislike and you don't want it to be used anymore, then you can safely delete it. Although this might break Presets which link directly to this image without your realizing it.

Crashing During a Gig

Having software crash during a live performance is dreaded by every VJ. So we've tried to make NestDrop as stable as possible. But here are some quick fixes to keep things running smoothly.

- If the Library window happens to crash during a live performance and yet the Deck window is still running... Then just manually reopen *<Nestdrop.exe>* and the Deck will automatically connect itself again without needing to be restarted.
- If a Deck window happens to crash during a live performance and yet the Library window is still running... Then just wait a few seconds and the Deck will automatically relaunch itself. Although you might need to relink the Spout video stream within other software. (Note: Resolume will remember the Spout link and not need to be reactivated.)

Editing the User Profile

If you find that you need to manually edit the user profile, first create a backup copy, and then open it up in a text editor (such as Notepad++). The user profile uses the XML file format, which is human readable and so you can directly edit your favorites, queue windows, comments, and other information. This is useful if you need to do some batch editing or perhaps add comments according to the filenames. Just be careful to follow the necessary XML formatting.

Mesh Size

By default NestDrop uses a mesh size of 48, which is the sweet spot in terms of CPU workload and the rendered visual details. In a nutshell, the mesh size determines how much computation is needed for each rendered frame.

It's possible to change the default mesh size of the Milkdrop engine, but it's not advised. The visuals often don't look much different and yet when using higher values (such as 192) the CPU workload increases dramatically, eventually reducing the frame rate in order to keep up.

To adjust the mesh size setting in NestDrop: open up a blank text editor, copy-and-paste the text shown below, and save it as *milk2.ini* within the *<NestDrop/Plugins>* folder. Adjust the 'nMeshSize' to your desired value. Now start-up NestDrop and custom mesh size will be used.

[settings]
nMeshSize=48

Preset Compiler Error & Warning Messages

By default NestDrop hides any error messages or warning messages from the core Milkdrop engine. Since this software is made with VJ performances in mind, we don't want the audience to see these error messages.

But it is possible to make the error messages visible in NestDrop. Open up a blank text editor, copy-and-paste the text shown below, and save it as *milk2.ini* within the *<NestDrop/Plugins>* folder. Now start-up NestDrop and any error messages will be visible in the top-left of the Deck window (or when fullscreening via the Direct Output), but the error messages will not be visible in the Spout video stream or NDI video stream.

[settings]
bWarningsDisabled2=0

OSC Output [Pro Edition Only]

Here is a list of the OSC output messages. When setting up the client (ex: TouchOSC) then be sure to not activate the "feedback" option in the controls, which could result in an infinite loop and cause software instability. For example, this is useful if you want to externally control NestDrop from a Resolume Wire patch and also keep the state of the NestDrop controls synced with Resolume Wire.

Deck Controls

All control value changes will result in an OSC message if OSC output is enabled. At startup and every time the OSC Output is enabled, NestDrop sends a bundle containing all control values and queue information to update the remote UI. Remote applications can call all information by sending the string "?" at the address "/Controls", or "/Controls/Deck1"

```
/Controls/Deck[1-4]/sTransitTime FLOAT(2)
/Controls/Deck[1-4]/sTargetFps FLOAT(30)
/Controls/Deck[1-4]/sAnimSpeed FLOAT(1)
/Controls/Deck[1-4]/sZoomSpeed FLOAT(1)
/Controls/Deck[1-4]/sRotationSpeed FLOAT(1)
/Controls/Deck[1-4]/sWrapSpeed FLOAT(1)
/Controls/Deck[1-4]/sHorizonMotion FLOAT(0)
/Controls/Deck[1-4]/sVerticalMotion FLOAT(0)
/Controls/Deck[1-4]/sStretchSpeed FLOAT(1)
/Controls/Deck[1-4]/sWaveMode INT32(0)
/Controls/Deck[1-4]/sR FLOAT(1)
/Controls/Deck[1-4]/sG FLOAT(1)
/Controls/Deck[1-4]/sB FLOAT(1)
/Controls/Deck[1-4]/sBrightness FLOAT(1)
/Controls/Deck[1-4]/sContrast FLOAT(1)
/Controls/Deck[1-4]/sGamma FLOAT(1)
/Controls/Deck[1-4]/sHue FLOAT(0)
/Controls/Deck[1-4]/sSaturation FLOAT(1)
/Controls/Deck[1-4]/sLumaKey/Min FLOAT(0)
/Controls/Deck[1-4]/sLumaKey/Max FLOAT(1)
/Controls/Deck[1-4]/sAlpha FLOAT(1)
/Controls/Deck[1-4]/sNegative FLOAT(0)
/Controls/Deck[1-4]/cbChannel INT32(3)
/Controls/Deck[1-4]/sBass FLOAT(1)
/Controls/Deck[1-4]/sMid FLOAT(1)
/Controls/Deck[1-4]/sTreble FLOAT(1)
/Controls/Deck[1-4]/cbStrobeEffect INT32(9)
/Controls/Deck[1-4]/lbStrobeColor STRING(#FFFFFF)
/Controls/Deck[1-4]/sStrobeSpeed FLOAT(4)
/Controls/Deck[1-4]/sStrobeEffectSpan/Min FLOAT(0)
/Controls/Deck[1-4]/sStrobeEffectSpan/Max FLOAT(1)
/Controls/Deck[1-4]/sStrobePulseWidth FLOAT(0.5)
/Controls/Deck[1-4]/cbStrobeRamp INT32(0)
/Controls/Deck[1-4]/cbStrobeTrigger INT32(0)
/Controls/Deck[1-4]/btStrobeOnOff INT32(0)
```

BPM Clock

Periodically NestDrop will send a message at every beat change:

```
/Controls/sBpmCnt INT32(1506)
```

Preset activation

Message sent when activate a new Preset, or changing the individual animation speed:

```
/Deck1/Preset STRING(/PresetID/4) STRING($$$ Royal - Mashup (257))
INT32(1) INT32(1) FLOAT(1)
```

Explanations:

- `/Deck1/Preset` => Path mentioning Preset change on Deck1
- `STRING(/PresetID/4)` => Path of the Preset
- `STRING($$$ Royal - Mashup (257))` => Name of the Preset

- `INT32(1)` => 0 = inactive, 1 = active
- `INT32(1)` => Activated counter (x1)
- `FLOAT(1)` => Animation Speed (%)

Sprite activation

Message sent when activate a new Sprite, or changing the Special function (Fx:):

```
/Deck1/Sprite STRING(/PresetID/2148) STRING(NestDrop Deck 1) INT32(1) STRING(Nested) INT32(50) INT32(0) INT32(1)
```

Explanations:

- `/Deck1/Sprite` => Path mentioning Sprite change on Deck1
- `STRING(/PresetID/2148)` => Path of the Sprite
- `STRING(NestDrop Deck 1)` => Name of the Sprite
- `INT32(1)` => 0 = inactive, 1 = active
- `STRING(Nested)` => Nested or Overlay
- `INT32(50)` => Special function (Fx: 50)
- `INT32(0)` => Number of Overlay instance
- `INT32(1)` => Number of Nested instance

Text activation

Message sent when activate a new Text button, or changing the Special function (Fx:) :

```
/Deck1/Text STRING(/PresetID/Queue3/2152) STRING(Hello) INT32(1) INT32(23)
```

Explanations:

- `/Deck1/Text` => Path mentioning Text change on Deck1
- `STRING(/PresetID/Queue3/2152)` => Path of the Text button
- `STRING(Hello)` => Text
- `INT32(1)` => 0 = inactive, 1 = active
- `INT32(23)` => Special function (Fx: 23)

Queues messages

The queue's OSC path includes their name, but if some illegal characters (such as a space) are used in the name, a new OSC friendly name is generated and used instead. Click in the queue title bar to display the exact OSC path in the OSC panel.

Message at NestDrop startup, when creating a new queue, or if the following status changed:

- Active Status
- Number of Preset
- Shuffle
- Queue Name

```
/Queue/Queue1 INT32(1) STRING(PRESET) FLOAT(0.25) FLOAT(2) INT32(1) INT32(4)
```

Explanations:

- `/Queue/Queue1` => path including the Queue Name "Queue1"

- `INT32(1)` => 0 = inactive, 1 = active
- `STRING(PRESET)` => Type of the Queue: "NONE", "PRESET", "SPRITE", "TEXT", "MIDI", "SETTING"
- `FLOAT(0.25)` => Beat offset in % (0.25, 0.5, 0.75, 1.0)
- `FLOAT(2)` => Beat Multiplicator, default is 1.0
- `INT32(1)` => Deck number (1-4)
- `INT32(4)` => Preset count

Messages will be sent if changing other properties, or those properties can be changed by sending those messages:

- **Beat Offset** (Bof), Range 0-1 float, Send and Receive:
  `/Queue/Queue1/sBof FLOAT(0.25)`
- **Beat Multiplicator**, Range >0 float, Send and Receive:
  `/Queue/Queue1/sBmul FLOAT(2)`
- **Deck Number**, Range 1-4 Integer, Send and Receive:
  `/Queue/Queue1/Deck INT32(2)`
- **Queue Active**, Range 0 or 1 Integer, Receive only:
  `/Queue/Queue1 INT32(1)`

Video Tutorials

Here is a collection of tutorials exploring NestDrop.

- NestDrop Goodies Part 1
- NestDrop Goodies Part 2
- Inject Resolume visuals into NestDrop
- Advanced NestDrop mixing techniques
- Inject live video into NestDrop using OBS
- How to record NestDrop visuals directly
- Advanced features of NestDrop Midnight
- Overview of NestDrop Classic
- How to mashup presets using Winamp

Conclusion

Want More Presets?

Included with NestDrop is a curated library of over 1,900 presets which are ideal for VJ-ing. Want even more presets? Check out the Cream of the Crop and Isosceles Mashups collections.

NestDrop Codebase

NestDrop consists of 3 pieces of software running at the same time. NestDrop.exe is the library GUI *(64-bits programmed in WPF and C#)*, NestDrop_livePreview.exe is the live preview engine *(32-bits programmed in C++)*, and NestDrop_SpoutSender.exe is the Milkdrop 2.25c render engine and Spout sender. Milkdrop 2.25d was not used because it broke backwards compatibility with some presets. We fixed a few bugs in Milkdrop and did some optimizations within the Milkdrop source code and so we versioned it as Milkdrop 2.25c+. We implemented 8 new waveforms and changed the custom shapes limit and waves limit to 16 instead of 4. We updated the frequency analysis algorithm and now use the stereo signal instead of just the left signal. NestDrop outputs the Spout video texture as DX11, yet the NestDrop core engine used for drawing the visuals is still DX9. We chose to keep each executable separate to ensure that the NestDrop_SpoutSender.exe will continue rendering even if NestDrop.exe crashes.

Milkdrop History

- 2001 - Ryan Geiss released Milkdrop 1 as a plugin for the Winamp media player. Milkdrop 2 was released in 2007 with more features such as pixel shaders. The codebase was open-sourced in 2013. Cheers to Ryan! Much respect.
- 2015 - Maxim Volskiy created BeatDrop, a stand alone version of Milkdrop which used Matthew van Eerde's loopback-capture code.
- 2018 - Lynn Jarvis forked BeatDrop and created BeatDrop for Spout to add support for Spout.
- 2019 - BeatDrop for Spout is forked by Nest Immersion. It was edited to receive external commands, added a GUI interface, numerous tweaks of the Milkdrop engine, and optimized the Spout code to increase the frame rate at high resolution visuals.

Special Thanks

Patrick Pomerleau - Programmed the NestDrop software and made it something unique and fun to perform with. This software wouldn't have happened without him.

Jason Fletcher - Proposed the idea of this software. He spent many hours curating the best Presets and also brainstormed features for NestDrop while rigorously testing it.

Many others such as beta testers and enthusiasts NestDroppers!

We stand on the shoulders of giants. Many thanks to the creators and contributors who made this software possible: **Ryan Geiss**, **Maxim Volskiy**, **Matthew van Eerde**, **Lynn Jarvis**

Join us on Reddit

We would enjoy hearing how you are using NestDrop. If you have questions then please head over to the NestDrop community on Reddit where the developers visit regularly.

Please add the **#NestDrop** tag to any social media featuring NestDrop visuals.

Let's open minds and subversively change the world. Cheers!