

Numark®
NS6

serato™
ITCHO

REFERENCE MANUAL

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REGISTRATION

Please go to <http://www.numark.com> to register your NS6. Registering your product ensures that we can keep you up-to-date with any new product developments and provide you with world-class technical support, should you run into any problems.

IMPORTANT!!!

- **READ SAFETY INSTRUCTIONS & WARRANTY INFORMATION BEFORE USING THE PRODUCT.**
- Before getting started and connecting devices to NS6 or turning NS6 on/off, make sure all devices are off and all faders and gain knobs are set to "zero."
- ***Before connecting the NS6 to your computer***, insert the included CD to install the latest drivers as well Serato ITCH. (Visit www.serato.com/itch to check for available software updates.)
- Remove the blue film from the PLATTERS before using NS6.
- Touch the PLATTERS to calibrate the touch-sensitive circuit before using NS6.
- When reconnecting the NS6 to your computer, the NS6 will recall the previous positions of the software (e.g., Pitch, effects parameters, etc.). Be mindful of this before playing a track.

SOFTWARE INSTALLATION

Free updates to the Serato ITCH software are available online at <http://www.serato.com/itch>. We recommend checking the website for the latest update of Serato ITCH before installing it on your computer.

1. Visit www.serato.com/itch and download the latest version of Serato ITCH!
2. Double-click the ITCH installer file.
3. Follow the instructions on the screen to begin the installation process. During this process, you will be prompted to connect the NS6 to your computer.

Windows users: throughout the installation:

- if Windows warns you that any of the drivers' certificates cannot be verified, approve them anyway.
- if Windows warns you that the hardware installation was not successful or may not work properly, ignore it.
- if you see any dialog boxes flash briefly on the screen before disappearing, ignore them.

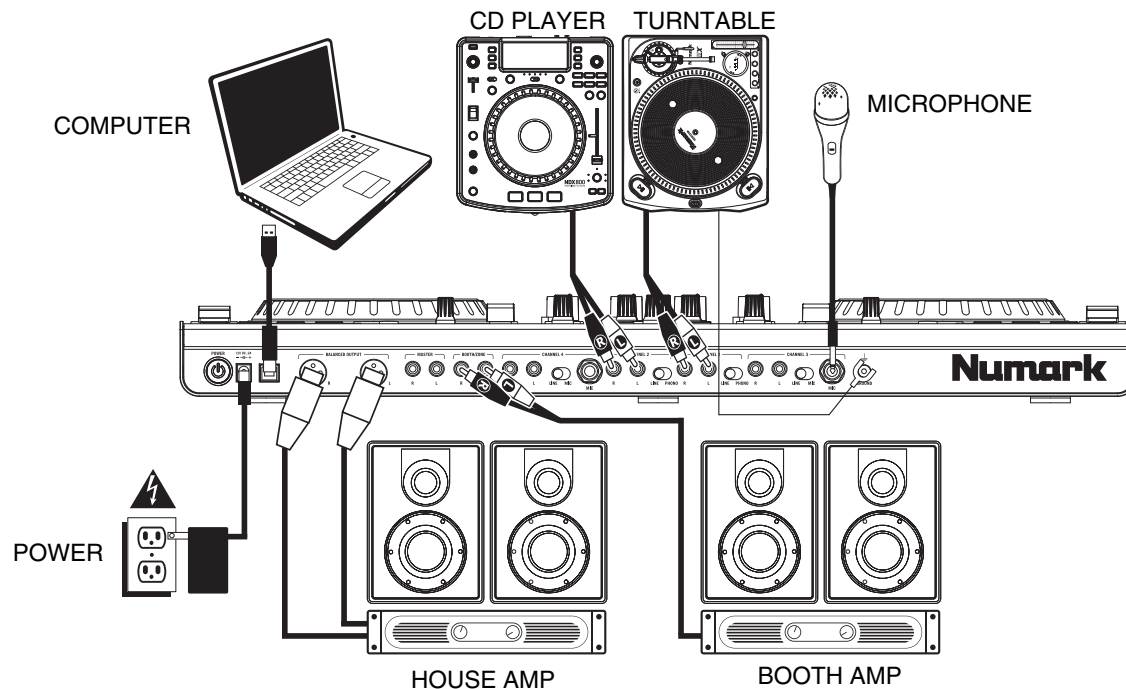
These warnings are normal and are simply Windows' reaction to the cancellation of its own hardware installer. (NS6 and Serato ITCH use their own installation processes.)

4. If you selected the default location during the installation process, you can find the program in the following location:
 - Windows XP: **Start Menu ► Programs ► ITCH**
 - Windows Vista: **Windows Menu ► All Programs ► Serato ► ITCH**
 - Windows 7: **Windows Menu ► All Programs ► Serato ► ITCH**
 - Mac OS X: **Applications** folder

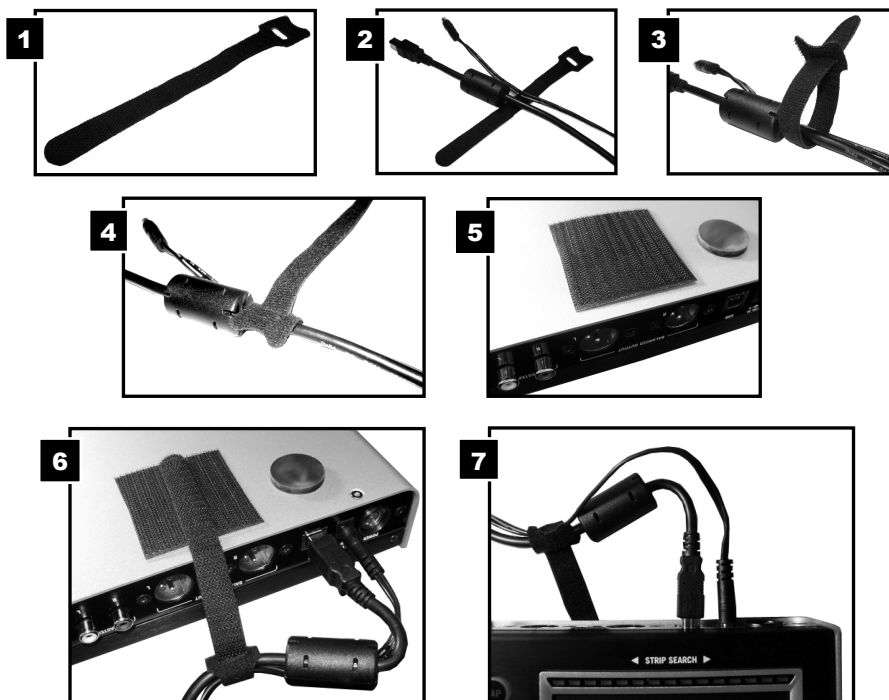
CONNECTING THE NS6

1. NS6: Connect any optional input sources (microphones, turntables, CD players, etc.) to NS6.
2. Connect output devices (power amplifiers, sub-mixer, recorders, etc.) to NS6.
3. Plug all devices into power supply, and turn on devices in proper order:
 - a. When **starting** a session, turn devices on in this order: (1) auxiliary input sources, (2) NS6, (3) output devices
 - b. When **ending** a session, reverse this operation by turning off: (1) output devices, (2) NS6, (3) auxiliary input sources
4. Connect NS6 to your computer with the USB cable (included) and to your headphones.
5. Start Serato ITCH and go!

CONNECTION DIAGRAM



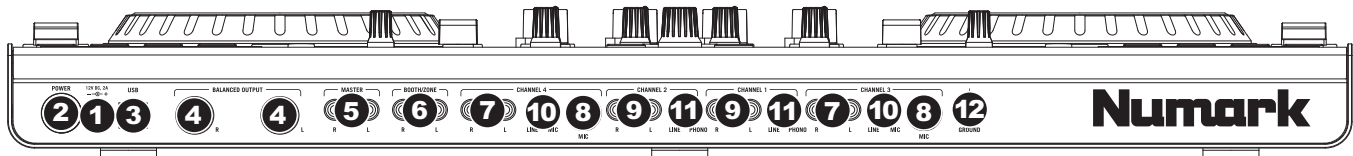
POWER/USB CABLE SETUP



NS6

FRONT & REAR PANEL FEATURES

REAR:

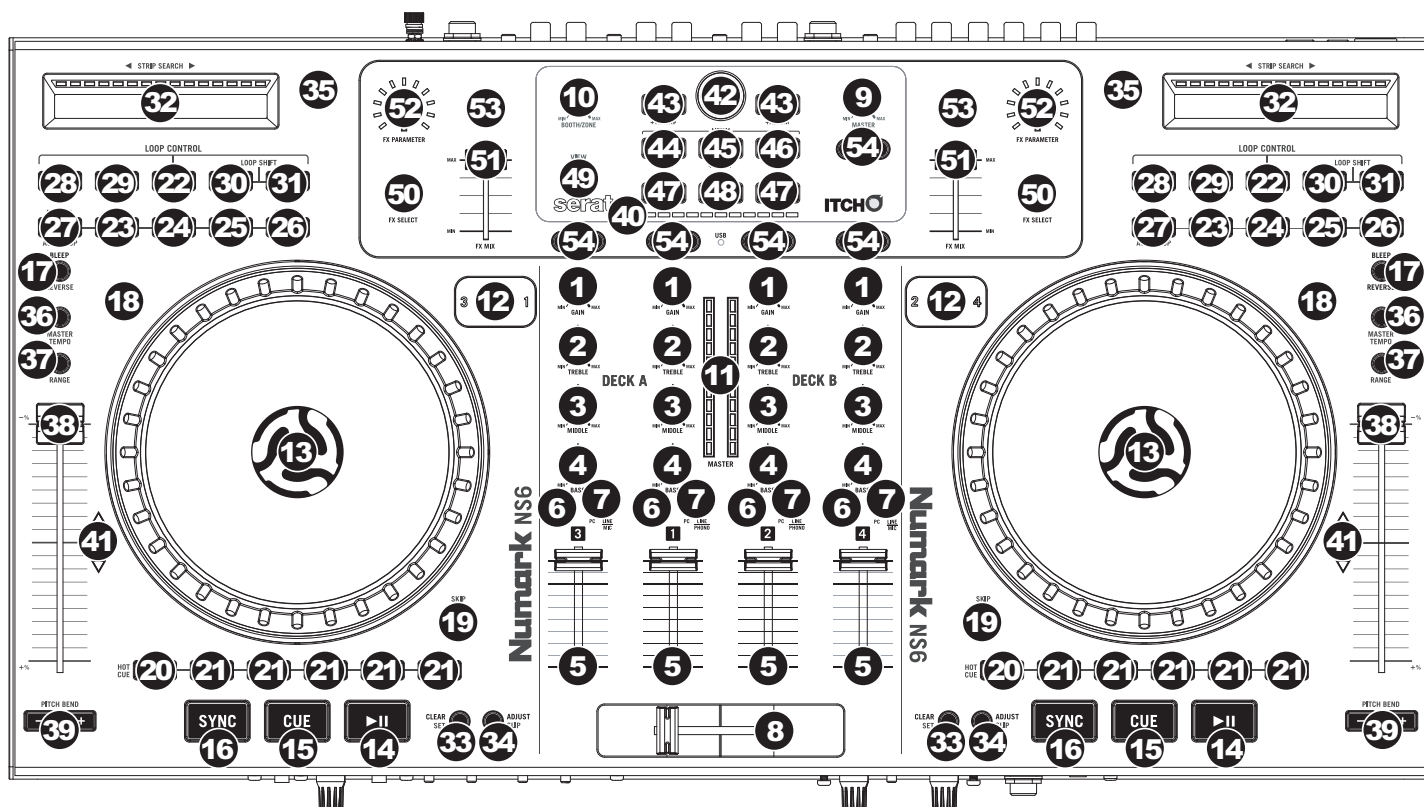


FRONT:



1. **POWER IN** – Use the included power cable to connect NS6 to a power outlet. While the power is switched off, plug the cable into NS6 first, then plug the cable into a power outlet.
2. **POWER SWITCH** – Turns NS6 on and off. Turn on NS6 after all input devices have been connected and before you turn on amplifiers. Turn off amplifiers before you turn off NS6.
3. **USB** – This USB connection sends and receives audio and control information from a connected computer.
4. **MASTER OUTPUT (XLR)** – Connect this low-impedance XLR output to a PA system or powered monitors. The level of this output is controlled with the MASTER knob on the top panel.
5. **MASTER OUTPUT (RCA)** – Use standard RCA cables to connect this output to a speaker or amplifier system. The level of this output is controlled by the MASTER knob on the top panel.
6. **BOOTH/ZONE OUTPUT (RCA)** – Use standard RCA cables to connect this output to a booth monitoring system. The level of this output is controlled by the BOOTH/ZONE knob on the top panel.
7. **LINE INPUTS (RCA)** – Connect line-level devices, such as CD players, samplers or audio interfaces, to these inputs.
8. **MIC INPUT (1/4")** – Connect a 1/4" microphone to this input. Microphone controls are located on the top panel.
9. **LINE | PHONO INPUTS (RCA)** – Connect your audio sources to these inputs. These inputs can accept both line and phono-level signals.
10. **LINE | MIC SWITCH** – Flip this switch to the appropriate position, depending on the device connected to the LINE | PHONO INPUTS. If you are using a microphone, set this switch to "MIC." If using a line-level device, such as a CD player or sampler, set this switch to "LINE."
11. **LINE | PHONO SWITCH** – Flip this switch to the appropriate position, depending on the device connected to the LINE | PHONO INPUTS. If you are using phono-level turntables, set this switch to "PHONO" to provide the additional amplification needed for phono-level signals. If using a line-level device, such as a CD player or sampler, set this switch to "LINE."
12. **GROUNDING TERMINAL** – If using phono-level turntables with a grounding wire, connect the grounding wire to these terminals. If you experience a low "hum" or "buzz", this could mean that your turntables are not grounded.
Note: Some turntables have a grounding wire built into the RCA connection and, therefore, nothing needs to be connected to the grounding terminal.
13. **HEADPHONES (1/4" or 1/8")** – Connect your 1/4" or 1/8" headphones to this output for cueing and mix monitoring.
14. **HEADPHONE VOLUME** – Adjusts the volume level of the headphone output.
15. **SPLIT CUE** – When this switch is in the ON position, the headphone audio will be "split" such that all channels sent to CUE are mixed to mono and applied to the left headphone channel and the Program mix is mixed to mono and applied to the right channel. When the switch is in the OFF position, Cue and Program audio will be "blended" together.
16. **CUE BLEND** – Turn to mix between Cue and Program in the Headphone channel. When all the way to the left, only channels routed to CUE will be heard. When all the way to the right, only the Program mix will be heard.
17. **CROSSFADER ASSIGN** – Routes the audio playing on the corresponding channel to either side of the crossfader (L or R), or bypasses the crossfader and sends the audio directly to the Program Mix (center, "|").
18. **CROSSFADER SLOPE** – Adjusts the slope of the crossfader curve. Turn the knob to the left for a smooth fade (mixing) or to the right for a sharp cut (scratching).
19. **FADER START** – Enables or disables "fader start" on the corresponding side of the crossfader. When fader start is enabled on one side, moving the crossfader toward that side will cause the Deck to start playing.

TOP PANEL FEATURES



USEFUL TERMS:

- **Audio Pointer:** The current position in a track from where audio will play. When you select a track and begin playing, the Audio Pointer will usually start from the beginning and stop at the end.
- **Cue Point:** A marked position in a track, which will be permanently stored by the software. You can set, return to, or delete Cue Points with the CUE CONTROLS.
- **Temporary Cue Point:** A marked position in a track, which will only remain while that track is still loaded in the Deck. You can set and return to the Temporary Cue Point with the CUE button.

MIXER CONTROLS

1. **GAIN TRIM** – Adjusts the pre-fader, pre-EQ audio level of the corresponding channel in the software.
2. **CHANNEL TREBLE** – Adjusts the high (treble) frequencies.
3. **CHANNEL MID** – Adjusts the mid-range frequencies.
4. **CHANNEL BASS** – Adjusts the low (bass) frequencies.
5. **CHANNEL FADER** – Adjusts the audio level on the corresponding channel in the software.
6. **PFL** – Press this button to send this channel's pre-fader signal to the Cue Channel for monitoring. When engaged, the button will be lit. By pressing one PFL button at a time, you will cue that channel alone (and deactivate PFL monitoring for the other channels). To cue to multiple channels simultaneously, press the PFL buttons for those channels at the same time.
7. **INPUT SELECTOR** – Set this switch to the desired audio source from this channel – "PC" (a track playing on that layer in the software) or "LINE/MIC" or "LINE/PHONO" (a device connected to the LINE/PHONO or MIC input on NS6's rear panel). *Please note that the LINE/MIC and LINE/PHONO selector switches on NS6's rear panel must also be set properly. Also, a channel's controls will only send MIDI information when its INPUT SELECTOR is set to "PC."*
8. **CROSSFADER** – Blends audio between the channels assigned to the left and right side of the crossfader.
Note: The crossfader is user-replaceable if it should ever wear out. Simply remove the facepanel, then remove the screws holding it in position. Replace the fader with a quality authorized replacement from your local Numark retailer only.
9. **MASTER VOLUME** – Adjusts the output volume of the Program Mix.
10. **BOOTH/ZONE VOLUME** – Adjusts the output volume of the BOOTH/ZONE OUTPUT mix.
11. **LED METERS** – Monitors the audio levels of the Program Mix.

PLAYBACK CONTROLS

12. **LAYER** – Selects which Layer in the software is controlled by that hardware Deck. Deck A can control Layer 1 or 3; Deck B can control Layer 2 or 4.
13. **PLATTER** – This platter controls the Audio Pointer in the software.
14. **PLAY / PAUSE** – Starts or resumes playback if the Deck is paused. Pauses playback if the Deck is playing. (The rate at which the playback shifts from “play” to “pause” and from “pause” to “play” is controlled by the START TIME and STOP TIME knobs.)
15. **CUE** – If no Temporary Cue Point is assigned, or if the Deck is paused, press CUE to set a Temporary Cue Point. While the track is playing, press it again to return to the Temporary Cue Point and pause playback.
You can hold down CUE to start playback from the Temporary Cue Point. Release it to return to the Temporary Cue Point and pause playback.
You can hold down CUE and PLAY / PAUSE simultaneously to start playback from the Temporary Cue Point. Release both buttons to allow playback to continue.
16. **SYNC** – Automatically matches the corresponding Deck’s tempo with the MASTER BPM.
17. **BLEEP / REVERSE** – Reverses audio playback of the track on the corresponding deck.
 - When using the button as a REVERSE button, the playback of the track will be reversed. Returning the switch to its center (deactivated) position will resume normal playback from wherever the Audio Pointer stops.
 - When using the button as a BLEEP button (while holding SHIFT and pressing this button), the playback of the track will be reversed. Returning the switch to its center (deactivated) position will resume normal playback from where it would have been if you had never engaged the BLEEP function (i.e., as if the track had been playing forward the whole time).
18. **SCRATCH** – Press this to turn Scratch Mode on/off. When in Scratch Mode, the button will be lit, and moving the PLATTER will scratch the track. When not in Scratch Mode, moving the PLATTER will bend the track’s pitch.
19. **SKIP** – Press and hold this button then turn the PLATTER to skip forward or backward through the track by beat. (Scratch Mode will be disabled while this button is pressed.)

CUE CONTROLS

20. **DELETE CUE / SHIFT** – Press or hold this to enable Delete Cue Mode, so you can erase assigned Cue Points from the HOT CUE BUTTONS. When the DELETE CUE button is lit bright red, it is in Delete Cue Mode. You can then press a red HOT CUE BUTTON to delete its assigned Cue Point. (Pressing the DELETE CUE button to enable Delete Cue Mode will let you delete one Cue Point at a time. Holding the DELETE CUE button to enable Delete Cue Mode will let you delete multiple Cue Points.) Pressing and holding this button also allows you to access secondary (“shift”) functions of other buttons on NS6.
21. **HOT CUE BUTTONS (1-5)** – Assigns a Cue Point or returns the track to that Cue Point. When a HOT CUE BUTTON is unlit, you can assign a Cue Point by pressing it at the desired point in your track. Once it is assigned, the HOT CUE BUTTON will light up white. To return to that Cue Point, simply press it.
Tip: If the Deck is paused, holding a lit HOT CUE BUTTON will start playback from that Cue Point. Releasing it will return the track to that Cue Point and pause playback.
Note: Cue Points cannot be overwritten. You must first erase a Cue Point by pressing or holding the DELETE CUE button while pressing the appropriate HOT CUE BUTTON.

LOOP CONTROLS

22. **ON / OFF** – Press this to turn a loop on or off. If the Deck is already looping, it will exit the loop. If the Deck is not looping, the currently selected loop will be enabled (once the Audio Pointer enters the loop region). If no loop is set, nothing will happen.
23. **IN** – Press this to set a “Loop In” point where your loop will begin. If you are already in a loop when you press it, you can “fine tune” the placement of the “Loop In” point by moving the PLATTER. If no track is assigned to the Deck, nothing will happen.
24. **OUT** – Press this to set a “Loop Out” point where your loop will end. If you are already in a loop when you press it, you can “fine tune” the placement of the “Loop Out” point by moving the PLATTER. If no track is assigned to the Deck, nothing will happen.
25. **SELECT** – Press this to rotate through the loops set in the track. From here, you can edit, reloop, or enable the loop you have selected. (Also, if you pressed LOOP IN but want to cancel the loop before completing it, press SELECT, which will toggle out of it.)
26. **RELOOP** – Press this to jump to the start of the loop and enable it. If the Deck is already looping when you press it, the Audio Pointer will jump to the start of the loop and continue. If no loop is set, nothing will happen.

Hold DELETE CUE / SHIFT and any of these buttons to access their alternate functions:

IN, OUT, SELECT, RELOOP: Triggers Loop Roll in eighth, quarter, half, or one note measurements.

1/2 X, 2 X, SHIFT LEFT, SHIFT RIGHT: Jumps to stored loops 1, 2, 3, or 4 (respectively) and instantly reloops them.

27. **MODE** – Press this to switch between Manual Mode and Autoloop Mode, which changes the functions of the bottom four LOOP CONTROL buttons. In Manual Mode, the LOOP CONTROL buttons function as IN, OUT, SELECT, and RELOOP (explained above). In Autoloop Mode, the LOOP CONTROL buttons will set 1-, 2-, 4-, and 8-beat loops, respectively. Each loop will start at the Audio Pointer's location when the button is pressed.

***Note:** Due to the way the software analyzes beats per minute (BPM), the length of 1-, 2-, 4-, and 8-beat loops will vary between tracks with different BPM readings.*

28. **1/2 X** – Press this to halve the length of the selected loop.
29. **2 X** – Press this to double the length of the selected loop.
30. **SHIFT LEFT (◀)** – Press this to shift the selected loop to the left. It will move left the same distance as the length of the loop itself.
31. **SHIFT RIGHT (▶)** – Press this to shift the selected loop to the right. It will move right the same distance as the length of the loop itself.

TRACK CONTROLS

32. **STRIP SEARCH** – The length of this strip represents the length of the entire track. Place your finger on a point along this sensor to jump to that point in the track. (If you want to scroll through a track, we recommend using your computer rather than running your finger along the strip.)
33. **CLEAR / SET** – When using the software's Beat Grid, press SET to set a Beat Marker where the Audio Pointer is currently located. To delete the *closest* Beat Marker (i.e., the Beat Marker nearest to the Audio Pointer), press CLEAR (by holding SHIFT and pressing the button).
34. **ADJUST / SLIP** – When using the software's Beat Grid, hold SLIP and move the PLATTER to "slip" (i.e., shift or slide) the entire Beat Grid to the left or right. To "warp" or stretch the Beat Grid between two Beat Markers, place the Audio Pointer between them, hold ADJUST (while also holding SHIFT), and move the PLATTER. These two features are helpful when the Beat Grid is slightly misaligned with the track's transients.

PITCH CONTROLS

35. **TAP** – Tap this button at the same tempo as the track to help the software detect a more accurate BPM reading.
36. **MASTER TEMPO** – If you have changed the pitch of the track, you can press the MASTER TEMPO button to return the track's pitch to its original key. The track's tempo will remain at the speed designated by the PITCH FADER.
37. **PITCH RANGE** – Press this to adjust the range of the PITCH FADER to $\pm 8\%$, $\pm 16\%$, and $\pm 50\%$.
38. **PITCH FADER** – Controls the track's playback speed. An LED next to the fader will light up when set at 0%.
39. **PITCH BEND (+ / -)** – Press or hold down either of these buttons to temporarily adjust the track's playback speed. When released, the track playback will return to the speed designated by the PITCH FADER.
40. **BPM METER** – This meter is an aid for matching the tempo of both decks. When the white center LED is lit, the BPMs are matched. Otherwise, the meter will tend towards the faster deck. The further from center, the greater the difference between the two BPMs.

The meter is also an aid while adjusting Loop In or Loop Out points. If you are making fine adjustments to your Loop In or Loop Out points using the PLATTERS, the lit LED will "wrap around" the meter. It will rest on the white center LED whenever the loop's length has been doubled or halved exactly.

***Note:** The BPM METER will aid in loop adjustments only if (1) a BPM reading has been entered for that track and (2) the tempos of the two selected Decks have been synchronized.*

41. **TAKEOVER LEDs** – When you select the other Deck with the DECK SELECT switch, the position of the NS6's PITCH FADER may not match the Pitch setting for that Deck in the software. Slowly move the PITCH FADER in the direction indicated by the TAKEOVER LED arrow until it turns off. At this point, the PITCH FADER matches the Pitch setting in the software and can control it again.

NAVIGATION CONTROLS

42. **SCROLL KNOB** – Use this knob to scroll through lists of tracks, Crates, etc. in the software. You can also press it to move between the panels shown in the software.
43. **FWD / BACK** – These buttons move the selector between various panels in the software.
44. **CRATES** – Press this to move the selector to the Crates Panel in the software.
45. **PREPARE** – Press this to move the selector to the Prepare Panel in the software.
46. **FILES** – Press this to move the selector to the Files Panel in the software.
47. **LOAD A / LOAD B** – Press one of these buttons while a track is selected to assign it to Deck A or Deck B, respectively.
48. **LOAD PREPARE** – Press this to add a selected track to the list of tracks in the Prepare Panel in the software.
49. **VIEW** – Press this to toggle through the available software layouts.

Hold DELETE CUE / SHIFT and any of these buttons to access their alternate functions:

FWD: Sort current Library/Crate/Panel View by album.

BACK: Sort current Library/Crate/Panel View by track number.

CRATE: Sort current Library/Crate/Panel View by song.

PREPARE: Sort current Library/Crate/Panel View by artist.

FILES: Sort current Library/Crate/Panel View by BPM.

EFFECTS CONTROLS

50. **FX SELECT** – Turn this knob to select an effect to apply to the channel, which will be displayed in the software. You can also press the knob to move automatically to the next effect.
51. **FX MIX** – Adjusts the amount of the effect, which will be displayed the software. To hear less of the effect (a "dry" mix), move this fader to the left. To hear more of the effect (a "wet" sound), move this fader to the right.
52. **FX PARAM** – Turn this knob to adjust the parameter of the effect, which will be displayed in the software.
53. **FX ON / OFF** – Press this button to activate or deactivate the effect. The button's LED will illuminate when the effect is on.
54. **FX SEND** – Use these buttons to apply Effect A and/or B to the corresponding channel. You can apply Effect A and/or B to the entire Program Mix by using the FX SEND buttons below the MASTER VOLUME knob. (Each effect can be applied to one of the four channels or the Program Mix.)

USING SERATO ITCH WITH THE NS6

IMPORTANT!

Please make sure you have downloaded the latest version of Serato ITCH from <http://www.serato.com/itch>.

GETTING STARTED

STARTING THE SOFTWARE

Serato ITCH will be installed to the following locations:

- Windows XP: **Start ► Programs ► ITCH**
- Windows Vista: **Windows Menu ► All Programs ► Serato ► ITCH**
- Windows 7: **Windows Menu ► All Programs ► Serato ► ITCH**
- Mac OS X: **Applications** folder

Connect NS6 before opening Serato ITCH. When the software launches, it will automatically detect the NS6.

IMPORTING MUSIC

■ Supported File Types

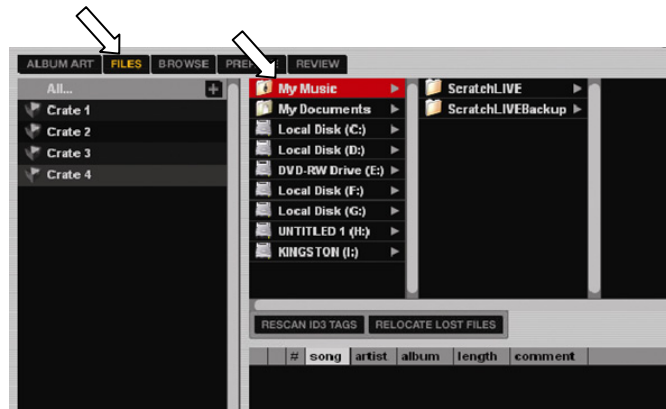
Serato ITCH supports the following file types: MP3, AAC (.m4a), WAV, AIFF, Ogg Vorbis, .WL.MP3, and ALAC (.m4a).

Fixed and variable bitrate files are both supported.

■ Adding Files to the Library

There are several ways to add files to your Serato ITCH library.

1. To show a view of your file system where you can browse your hard disk for music to load you can:
 - Click the **Files** button in the upper-left hand corner of the software window
 - Push the FILES button on the NS6
2. To navigate your files or Library, you can use:
 - NS6's Navigation Controls (the SCROLL KNOB or FWD and BACK buttons)
 - the cursor keys on your keyboard
 - the mouse
3. To load files into Serato ITCH, you can:
 - Click on files (or folders containing files) in the software's file browser and drag them onto the "All" heading in the Crate column, or into a specific Crate or Sub-Crate
 - Drag files (or folders containing files) directly from Windows Explorer (PC) or Finder (Mac) into the Serato ITCH Library
 - Load a file to any Deck, which automatically adds it to your Library



■ Deleting Files

To delete a track from a Crate, Sub-Crate, or the Library, select it in the software, then press CTRL + Delete (Windows) or CMND + Delete (Mac).

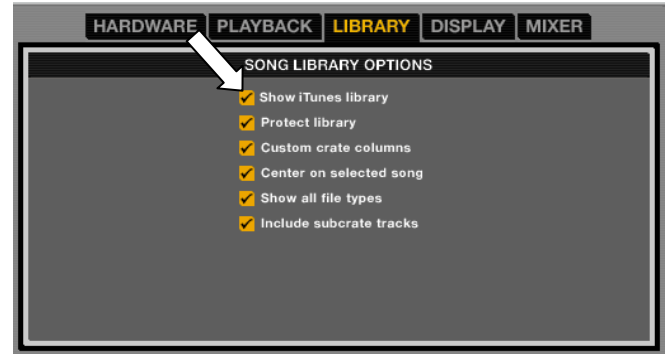
■ Importing Music from Audio CDs

Serato ITCH does not support CD ripping. We suggest you use a third party application like iTunes to convert your audio CDs into a suitable file type for Serato ITCH. We recommend importing songs as 320kbps mp3 files for high sound quality and low CPU load. Audio CDs can be played directly from the computer's CD-ROM or DVD-ROM drive.

Please visit <http://www.serato.com> for articles and information on file conversion.

■ Showing Your iTunes™ Library:

Serato ITCH can read your iTunes library and show it while browsing in ITCH. To enable this feature, click **Setup** to go to the Setup screen, then under the **Library** tab, select "Show iTunes Library." You will be able to access your iTunes Library.



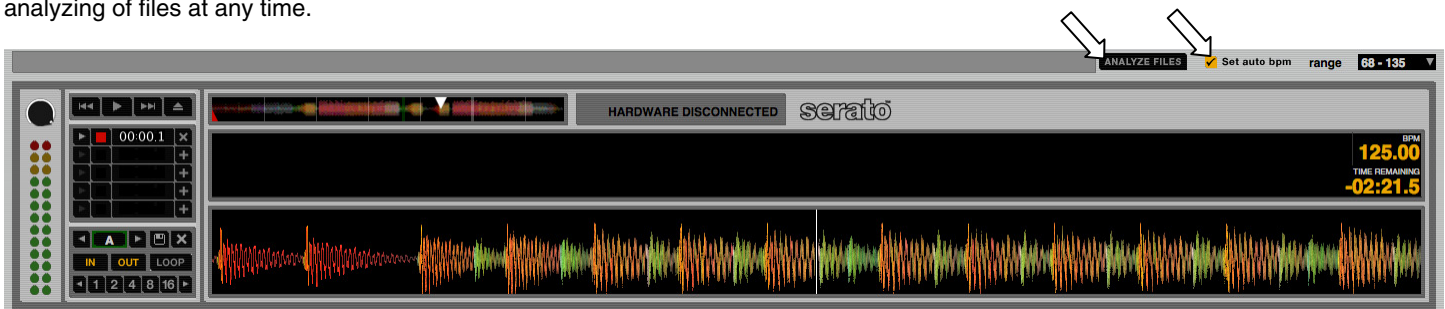
PREPARING YOUR FILES

Before you play your music in Serato ITCH, it is important to prepare your files by analyzing them. The software can scan the songs in your library to detect file corruption, save the waveform overview to an ID3 tag*, and calculate auto-gain and -BPM values.

■ How to Analyze Files

To analyze files, start the software with the NS6 disconnected. On the right side of the main screen, you will notice a button labeled "Analyze Files." Click this to analyze all the tracks in your library. You can drag and drop individual folders, Crates, or files onto this button to force the analyzing of files at any time.

* **ID3 tags** contain data about your tracks and are saved inside the files themselves. "Genre," "Track Name," and "Artist" are examples of common tag information.



■ About Corrupt Files

If the software detects a corrupt file, it will tag it with one of two corrupt file icons:



or



It is very important that you delete any corrupt files from your library as they can cause the software to crash whether or not you play the file.

■ Auto-BPM

If this option is checked while analyzing files, Serato ITCH will calculate the estimated tempos of your files. If it is confident that the auto BPM estimate for a file is accurate, it will be written to an ID3 tag* in the file.

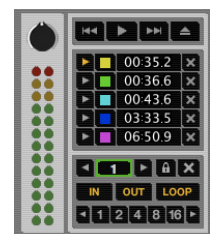
The auto-BPM function will not be applied if the track already contains BPM information. To reanalyze files and use auto-BPM or auto gain on those files, drag them onto the "Analyze Files" button. If you know your files BPM will fall within a certain range, use the "Range" drop-down menu (on the right-hand side) to avoid double or half value BPMs being calculated.

■ Offline Player

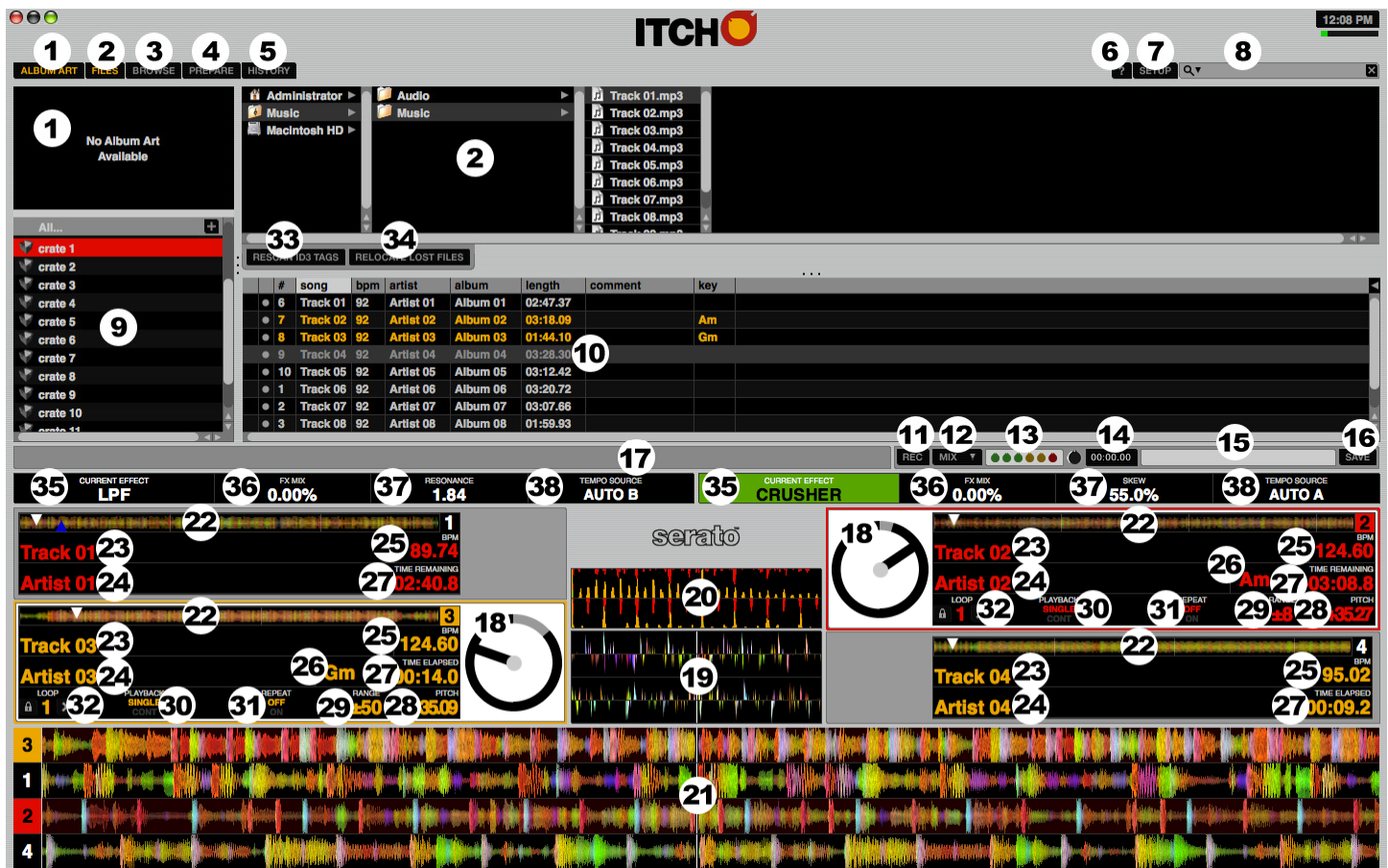
The Offline Player is available whenever the NS6 is disconnected from your computer. The Offline Player's sound will be sent through your computer's default audio device (e.g., your computer's soundcard). This player is a useful tool for auditioning tracks and preparing your Crates. You can also use it to set, edit, or delete Cue Points and Loop Points without the NS6.

Load a track to the player by dragging it from your Library and dropping it onto the Deck. You can also select it in your library and press SHIFT + left arrow. You can use the control panel to the left of the waveform to set Cue Points and loops. Cue Points can be set by clicking on any one of the five slots. The lower part of the panel represents a combination of the software loop controls and the NS6's loop controls, which you can use to set your Loop In and Loop Out points or Autoloops.

When the track being played ends, the next track in the current playlist will load and play automatically.



SOFTWARE OVERVIEW



More complete descriptions of these features are given in later sections of this manual, but this is a brief overview of the key features in Serato ITCH:

1. **Album Art:** Displays the cover art for the album selected.
2. **Files:** Displays the Files Panel, which enables you to search for tracks on your hard drive.
3. **Browse:** Displays the Browse Panel, which enables you to browse for tracks by genre, BPM, etc.
4. **Prepare:** Displays the Prepare Panel containing tracks you have pre-selected for your set.
5. **History:** Displays the History Panel containing tracks that have already been played.
6. **Tool Tips:** Enables or disables Tool Tip Display, which provides a dialog box with a description of a software feature when you place your mouse over it.
7. **Setup:** Shows the software Setup screen.
8. **Search:** Searches your Library for the text entered in this field.
9. **Crates:** Displays the list of Crates and Sub-Crates available.
10. **Library:** Displays the songs available in your current selection.
11. **Record:** Starts or stops recording.
12. **Record Source Selector:** Select a recording source from this drop-down menu.
13. **Recording Meter:** Indicates the peak levels of the audio being recorded.
14. **Recording Timer:** Timer for current recording.
15. **Recording Filename:** Enter the name of the file you are currently recording here.
16. **Save:** Saves the current recording to the "Recordings" folder inside your Main Library folder.
17. **Status Bar:** Displays Serato ITCH system messages and track status messages.
18. **Virtual Deck:** Rotates during playback.
19. **Beat-Matching Display:** Shows "transients" (usually the drum hits) to aid beat-matching.

20. **Tempo-Matching Display:** Displays tempos of the Decks to help the mixing process. Clicking on this section will toggle between the Tempo-Matching Display and the Master BPM information.
21. **Waveform:** Waveform of the currently loaded track.
22. **Track Overview:** An overview of the currently loaded track's entire waveform.
23. **Track Name:** "Title" tag for the current track.
24. **Artist Name:** "Artist" tag for the current track.
25. **BPM Field / Tap:** Displays track's BPM. You can click this field to "tap" out a time, from which the software will approximate and save a new BPM. If there is no BPM for the track, it will display "Tap" to prompt you to tap out a suggested tempo.
26. **Key:** If the track has a "key" ID3 tag, it will be displayed here.
27. **Track Time Display:** Displays the current position of the Audio Pointer in the track.
28. **Pitch:** Applied pitch offset as a percentage (%) (determined by the position of the PITCH FADER).
29. **Pitch Range:** Current range of the PITCH FADER.
30. **Playback Mode:** Toggles between "Single" and "Continuous" Playback Modes. Single Playback Mode plays only one track, stopping when it is finished. Continuous Playback Mode will automatically play the next track in the Crate when one track ends. Whenever a new track is loaded, this setting will remain the same.
31. **Repeat Mode:** Toggles Repeat Mode "On" or "Off" for the track (when **Playback Mode** is set to "Single") or Crate (when **Playback Mode** is set to "Continuous"). Whenever a new track is loaded, this will default to "Off."
32. **Loop Number:** Displays the number of the currently selected loop. Clicking the "lock" icon next to it will disable any changes to the current loop. Clicking the "X" icon next to it will delete the current loop.
33. **Rescan ID3 Tags:** Re-reads file tags for the entire Library. Use this function if you have edited or modified file tags in other software.
***Tip:** Rescanning the tags is a handy way to identify any files that can not be found (for instance, if the files have been re-named or moved). These tracks are shown red in the Library pane, with a "?" icon in the **Status** column.*
34. **Relocate Lost Files:** If you have moved files which are already in your Library, they will show up as not found (denoted by a "?" icon in the **Status** column) and be displayed in red. Drag and drop a folder from Finder (Mac) or Explorer (Windows) onto this button to search it, and any sub-folders, for these files. Doing this will update the Library with their new location. You can also click this button to scan your whole file system, including external drives connected to your computer, for missing files.
35. **Current Effect:** The currently selected effect applied to the channel (if the NS6's FX ON / OFF button is set to "on"). When the effect is on, the CURRENT EFFECT and NEXT EFFECT windows will light up.
36. **FX Mix:** The amount of CURRENT EFFECT, which can be adjusted with the NS6's FX MIX fader.
37. **Parameter:** The parameter for the CURRENT EFFECT, which can be adjusted with the NS6's FX PARAM knob. Generally, this is the intensity of the effect but may vary between effects.
38. **Tempo Source:** The current BPM for the track, which helps determine the speed of the CURRENT EFFECT (if it is rate-based). When this field reads "AUTO A" or "AUTO B," the effect will automatically follow the BPM of the track on Deck A or Deck B, respectively. You can set the BPM (and change it at any time) by using the NS6's TAP TEMPO button. You can also return to the track's auto-BPM by holding down TAP TEMPO.

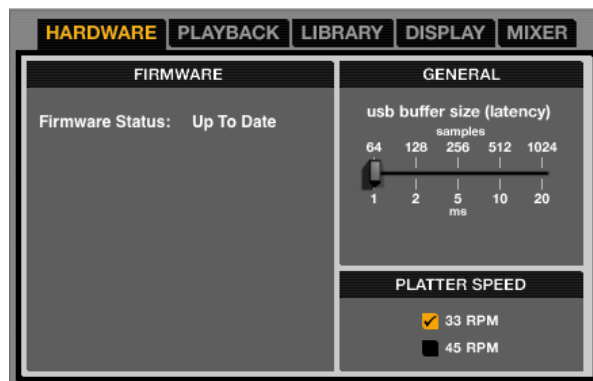
SOFTWARE SETUP

The Setup screen has controls to personalize and maintain your Serato ITCH system. Click the "Setup" button to enter the Setup screen. From here, you can click to enter any of the following tabs: **Hardware**, **Playback**, **Library**, **Display** or **Mixer**.

SOFTWARE VERSION & UPDATES: The version of Serato ITCH software is displayed in the bottom left corner of the **Setup** screen. The **Check for Updates** button will open <http://www.serato.com> in your web browser to tell you if there are available updates for your version of the ITCH software.

HARDWARE

- **Firmware Status / Updater:** When the NS6 is connected to your computer and your computer is online, this window indicates whether or not your firmware is current. If there is an available update, you will be able to click the "Update Firmware" button to update it. (See the UPDATING THE FIRMWARE section for more information.)
- **USB Buffer Size (Latency):** Adjust this virtual fader to set the buffer size of the USB connection between the hardware (NS6) and the software (Serato ITCH). If you are using a slower computer, increase the buffer size. At a larger buffer size, you should no longer experience any problems with your audio, but there may be a slight delay when the software responds to the hardware.
- **Platter Speed:** Changes the speed of the Virtual Decks between 33RPM and 45RPM.



PLAYBACK

GENERAL:

- **Playback Keys Use Shift:** When checked, all Cue Point, Loop, and Playback keys on the computer keyboard require Shift or Caps Lock to function.
- **Lock Playing Deck:** When checked, you can only load a track to a Deck if it is paused.
- **Hi-Fi Resampler:** When checked, this significantly reduces digital distortion at very slow or very fast record speeds (which will slightly increase the CPU load). This option is off by default.
- **Use auto gain:** When checked, you can set the maximum amount of gain a track will have during playback. If a loaded track's gain is lower than this setting, its gain will be automatically boosted (its loudest point will match the auto gain level). Auto gain is applied only to tracks that have been analyzed.
- **Enable Beat Grid:** When checked, all Beat Grid functions are available. Uncheck this box if you do not want to use Beat Grid.



ON SONG LOAD: These options affect the state of tracks when first loaded to the Deck.

- **Play from Start:** When checked, a newly loaded track will start from the beginning. If this box is unchecked, a newly loaded track will start from wherever the Audio Pointer was located in the previously loaded track.
- **Play from First Cue Point:** When checked, all tracks will start from their first Cue Point when loaded.

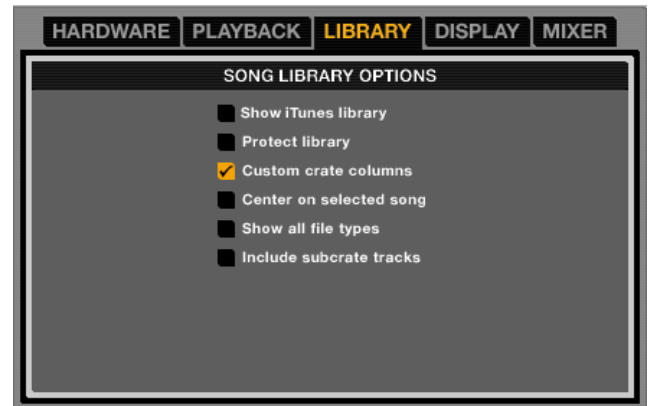
BRAKING: This knob controls the speed at which playback will stop when you pause a track. At the minimum (leftmost) value, playback will stop immediately. At the maximum (rightmost) value, the track will slow down before coming to a complete stop, simulating the sound of a turntable slowing down once the platter's motor stops.

RECORDING:

- **Bit Depth:** Select the recording bit depth as 16-bit or 24-bit.
- **File Format:** Select the file format you want your audio recordings to be saved as – Wave (.WAV) or AIFF (.AIF).

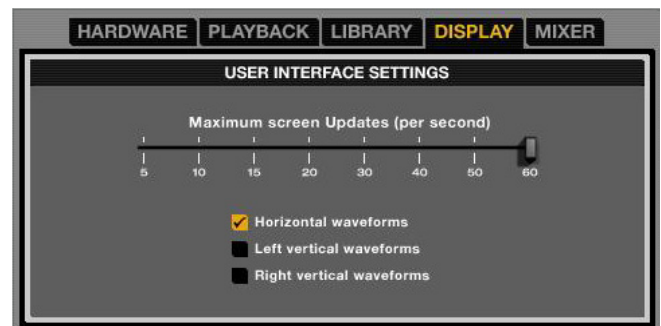
LIBRARY

- **Show iTunes Library:** When checked, the current default iTunes library and iTunes playlists will be shown in Serato ITCH. (See the IMPORTING MUSIC section for more information.)
- **Protect Library:** When checked, your Library will be locked to prevent accidental deletion of tracks or Crates, and you will be unable to change file tags or Crate names.
- **Custom Crate Columns:** When checked, you can set custom column views for each Crate and Playlist. When unchecked (the default setting), all Crates will share the same column configuration as the "all..." Crate.
- **Center on Selected Song:** When checked, scrolling up and down in your Library will hold the selected track in the middle of the Library panel.
- **Show All File Types:** When checked, you will be able to see all files when importing tracks into your Library. If this option is not checked, only files that Serato ITCH can play will be displayed. (See the IMPORTING MUSIC section for more information.)
- **Include Sub-Crate Tracks:** When checked, the tracks from any Sub-Crate will be displayed in their "parent" Crate. When this option is unchecked, browsing a Crate will not show tracks that are in any of its Sub-Crates.



DISPLAY

- **Maximum Screen Updates:** This slider allows you to adjust the rate at which the software screen refreshes. A lower setting will potentially use less CPU. Users with slower computers or those running a recording program at the same time may want to do this if they are experiencing CPU performance issues. The default setting is 60 Hz, or refreshed 60 times per second. This setting applies to the entire Serato ITCH user interface: the **Virtual Decks**, the **Waveforms**, the **Library**, and the **Setup** screen.
- **Horizontal Waveforms:** When checked, main waveforms will be displayed horizontally across the bottom of the screen.
- **Left Vertical Waveforms:** When checked, main waveforms will be displayed vertically on the left side of the screen.
- **Right Vertical Waveforms:** When checked, main waveforms will be displayed vertically on the right side of the screen.



MIXER

GENERAL:

- **EQ:** When the NS6's EQ knobs are in their maximum (right-most) position, they will boost that frequency range by the number of decibels specified here. Select either 6 dB or 12 dB.
- **Output:** Sets the audio output to Mono or Stereo.
- **Headroom:** Select how much headroom your device has before the internal limiter engages. Less headroom results in a louder output but has a greater chance of the limiter engaging (especially when more than one audio channels are in the mix). With the initial headroom setting of 0dB, you can apply 3dB of gain per Deck before the limiter engages.



CUE/FADERS: "Turn" these virtual knobs by clicking on them and dragging up (to increase) or down (to decrease) with the mouse.

- **Overdrive:** Increase the setting on this knob to give the gain of the headphones an extra boost. To prevent hearing damage, be careful not to set this level too high.
- **U/F Curve:** Adjusts the upfader curve. Turn the knob to the left for a tighter "cut" and to the right for a more gradual fade.

THE LIBRARY

Serato ITCH can support an unlimited number of tracks, so the only limitation is the size of your computer's hard drive. A number of features are included to help keep your music organized and find your songs quickly and easily.

CRATES & SUB-CRATES

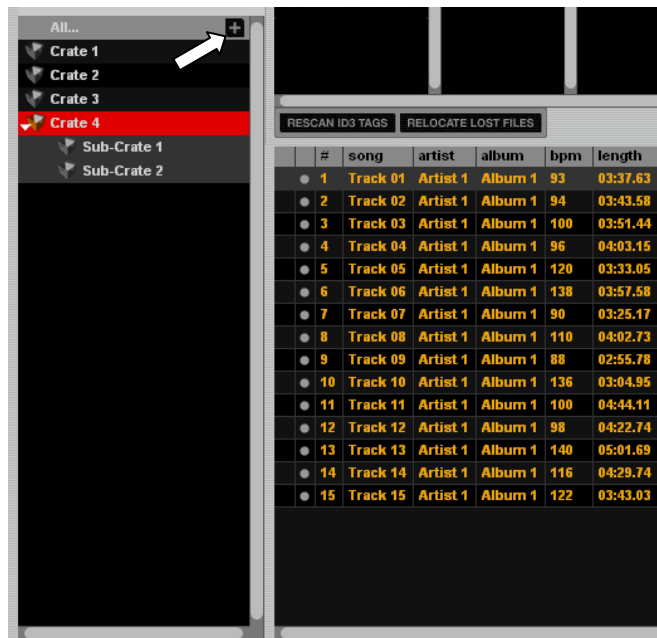
Crates and Sub-Crates are a way to organize your music into groups for quick access. This can be by genre, mood, or whatever suits your DJing style. The Crates area can be accessed by pressing the CRATES button on the NS6 or by clicking inside the Crates area with the mouse. The "+" button on the software allows you to create a new Crate. To add files to a Crate, drag and drop the track(s) from the library into the Crate. Crates can be nested inside each other to create Sub-Crates for more detailed sorting.

■ Crates

Serato ITCH uses digital "Crates" for quick access to your favorite collections. There is no limit to the number of Crates you can create, and any given track can be placed in multiple Crates. The Crate area is on the left hand side of the library.

For example, you could organize your files into the following Crates, where any one track would be filed in more than one Crate.

- Hip-Hop
- French Hip-Hop
- UK Hip-Hop
- Instrumental Hip-Hop
- Old School Hip-Hop
- Hip-Hop LPs



To make a new Crate, click the "+" button on the upper-right hand corner of the Crates area. To rename a Crate, double-click the Crate name. You can change the order of tracks within a Crate by dragging them up or down in the Library window.

Tip: The "Protect Library" option in the **Setup** screen applies to removing, editing and renaming Crates. Check this option to prevent unintentional changes to your Crates.

■ Sub-Crates

You can drag and drop Crates into other Crates to make Sub-Crates. If you drag a Crate to the very left of the Crate panel, it will stay in the top level of the Crate structure. If you drag the Crate a little to the right, onto the name of another crate, it will make the Crate you are dragging a Sub-Crate of the first Crate. Sub-Crates can be opened and collapsed. This way you can have a large number of Crates but still keep them easy to browse.

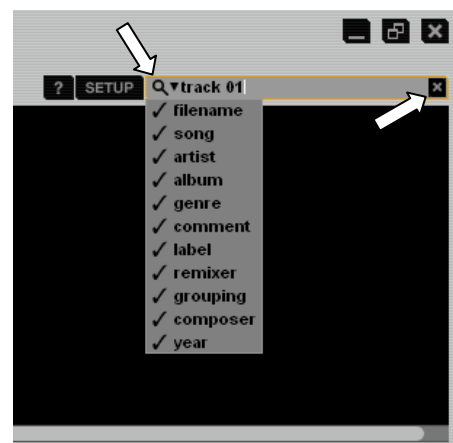
SEARCHING & BROWSING

■ Search

Serato ITCH includes a **Search** function to help you find files quickly and easily. Just enter text into the **Search** field in the upper-right hand corner of the screen. As you type, ITCH will automatically display files containing that text.

To select which fields the **Search** function will look through (i.e. Artist, Album, etc.), click on the icon on left side of the **Search** field. A drop-down menu will show which fields are currently being used. Press "Escape" on your keyboard or the "X" button on the right side of the **Search** field to clear it.

Tip: Press "Control" and "F" on your keyboard to jump to the **Search** field. This keyboard shortcut will also display the Main Library – taking you out of any Crate or Playlist you might be in – so you can find any track in your collection. If you then click on a Crate or Playlist, the **Search** field will be cleared.



■ Browse

To browse through your files, just scroll up or down with the SCROLL KNOB or FWD and BACK buttons on the NS6.

Clicking **Browse** in the software will open the **Browse** panel above the Main Library. The filters are GENRE, BPM, ARTIST, and ALBUM. You can narrow your search by selecting the specific genre, BPM, artist, or album title you're looking for, and the software will show the results on the Main Library window. You can move between the four filters with the FWD / BACK buttons in the NS6's Navigation Controls, the computer keyboard, or by clicking with the mouse.

COLUMNS

The view of your Library can be customized to show any of the columns listed below:

- Album
- Artist
- Bitrate
- BPM
- Comment
- Composer
- Filename
- Genre
- Grouping
- Label
- Length
- Location
- Remixer
- Sampling Rate
- Size
- Track
- Year

Clicking on the triangle in the upper-right hand corner of the Track Information Window will display this list of columns so you can select which to show or hide. You can resize columns by grabbing their edges with the mouse and dragging them to the width you want. You can also edit some of these fields (see "Editing ID3 Tags" under the TAGGING section).

ICONS

The column at the far left shows the status of each track. Examples of these icons are below.



The software has detected some corruption in the file. If possible, re-encode the MP3.



The track cannot be found. Most likely, the file has been renamed or moved.



The track has been imported from the iTunes library.



The track has been imported from iTunes but is corrupt.



The software is trying to import a track from the iTunes library but cannot find the file.



The track is read-only. You can play it but not edit any of its information.

You can click the **Relocate Lost Files** button in the Files panel to scan your whole file system – including external drives connected to your computer – for missing files (with the "?" icon). Doing this will update the Library with their new location. You can also drag and drop a folder from Finder (Mac) or Explorer (Windows) onto this button to search it, and any sub-folders, for these files.

TAGGING

■ Editing ID3 tags

Much of the information associated with each file can be edited from within the software. Double-click on the field within the Main Library to edit it. Filename, Length, Size, Bitrate, and Sampling Rate cannot be edited because this information is saved in the file itself. The "Protect Library" option in the **Setup** screen must be unchecked to allow edits. (See LIBRARY under the SOFTWARE SETUP section.)

To re-read file tags for the entire Library, enter the Files panel and click the **Rescan ID3 Tags** button. Use this function if you have edited or modified file tags in other software.

* **ID3 tags** contain data about your tracks and are saved inside the files themselves. "Genre," "Track Name," and "Artist" are examples of common tag information.

Note: Tracks that are read-only have a "locked" icon. You can not edit tags for these files.

Tip: To edit text, press "Control" and "E" on your keyboard. You can also hold down "Control" and move with the keyboard's arrow keys to change to a different field while staying in Edit Mode. When you have more than one file selected, editing tags changes all the files in your selection.

Tip: The second column in the Library is the label color for that file. Click it to bring up a color palette to customize the **Virtual Deck** for that file.

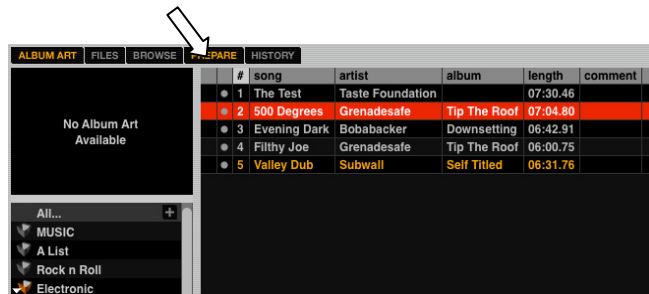
■ Album Art

MP3 files can contain album art. To display this album art, click the **Album Art** button on the upper-left hand corner of the software window. We recommend using iTunes to add album art to MP3s, though there are many other third party applications available.

PREPARING & REVIEWING TRACKS

■ Prepare

Click the **Prepare** button in the upper-left hand corner of the software window to access the Prepare Panel – an area for holding tracks, much like preparing a set by lifting records partially out of your record bag. You can also access this panel by pressing the PREPARE button on the NS6. You can drag tracks (or whole Crates) from the Main Library into the Prepare Panel, or drag them onto the **Prepare** button. You can also press the LOAD PREPARE button on the NS6 when the selector is on the track or Crate you want to add. Once a track from this list has played, it will be removed from the Prepare Panel. All tracks in the Prepare Panel will be discarded when you close the software.



■ History

ALBUM ARTFILESBROWSEPREPAREHISTORY

No Album Art Available

All...+MUSICA ListRock n RollElectronicDrum and BassHouse

period	name	artist	start time	end time	playtime	deck	notes
	▶ 24/11/09		24/11/09 3:01:57 PM NZDT	24/11/09 3:05:24 PM NZDT	00:03:27		
	▶ 24/11/09		24/11/09 3:11:38 PM NZDT	24/11/09 3:11:58 PM NZDT	00:00:20		
	▶ 24/11/09		24/11/09 3:12:24 PM NZDT	24/11/09 3:35:57 PM NZDT	00:23:33		
	▶ 21/12/09		21/12/09 9:11:07 AM NZDT	21/12/09 9:16:36 AM NZDT	00:05:29		
	▶ 21/12/09		21/12/09 10:30:00 AM NZDT	21/12/09 10:36:33 AM NZDT	00:06:33		
	▶ 15/01/10		16/01/10 6:53:47 AM NZDT	16/01/10 6:58:02 AM NZDT	00:04:15		
	▶ 30/03/10		30/03/10 10:54:39 AM NZDT	30/03/10 11:26:54 AM NZDT	00:32:15		
	▶ 30/03/10		30/03/10 2:33:07 PM NZDT	30/03/10 2:40:49 PM NZDT	00:07:42		
	▶ 14/05/10		14/05/10 11:01:40 AM NZST	14/05/10 11:06:09 AM NZST	00:04:29		
	▶ 16/07/10		16/07/10 2:59:34 PM NZST	16/07/10 3:05:56 PM NZST	00:06:22		
	▼ 16/07/10		16/07/10 3:08:45 PM NZST	5/08/10 4:09:55 PM NZST	481:01:10		
	Trash Vocal	Ang Finland	3:08:45 PM NZST	3:10:10 PM NZST	00:01:25	1	

START SESSIONEND SESSIONINSERT TRACKEXPORTtext

Show Unplayed TracksCLEAR

The **History** button opens a complete log of all the tracks you have played and allows you to export your ITCH session information as a data file. Each session is catalogued by date and time. Using the drop-down arrow, you can navigate to and view detailed information of any previous sessions. There are columns for the period (i.e., date of session), name of track, and artist name. In addition, the categories listed below will give you more detailed information about your sessions:

- **Start time:** When viewing a song row, the start time of the song is displayed. When viewing a session row, the start time of the session is displayed with the date (in real-time value).
- **End time:** When viewing a song row, the end time of the song is displayed. When viewing a session row, the end time of the session is displayed with the date (in real-time value).
- **Playtime:** When viewing a song row, the total played time of the song is displayed (i.e., 00:03:00). When viewing a session row, the total elapsed time of the session is displayed with date (i.e., 10/09/08 01:38:16).
- **Deck:** The virtual Deck that the song was played on will be displayed under the deck column. In the song row, either left or right is displayed. The offline player will be listed as offline.
- **Notes:** Use this field to list particular information about your songs and each session (i.e., note how you transitioned from one track to another).
- **Start Session / End Session:** To start or end a session, click the corresponding button.
- **Insert track:** If you wish to add information for tracks not played in ITCH into your session (e.g., if you played one of your favorite vinyl or CDs), select the song after which you want to insert it and click the "Insert Track" button. Double-click the inserted track fields and edit your information accordingly. When exporting an m3u playlist (see "Export" below), inserted tracks will not be present.

- **Export:** You can export each session as a data file using the "Export" button. Select a session, then choose your preferred file format, and click "Export." There are three possible export file formats:
 - **text:** Creates a simple text file containing your session information.
 - **csv:** Creates a file for use in spreadsheet software.
 - **m3u:** Creates a playlist file, which can be imported into media players. Note that an m3u does not contain audio itself; it only points to the location of your audio files. (Sessions with inserted tracks will not be included in an m3u playlist.)***Tip:** To make a new ITCH Crate containing your session information, select a session and drag it to the + ("new Crate") icon. The crate will automatically use the session date as the Crate name.*

Listing Behavior: Only the tracks you actually play are listed in history. This is done using an A-B algorithm, meaning a track on Deck A is only listed once the track on Deck B has been changed or ejected. You can choose to show tracks which you have auditioned but not actually played by checking the "Show Unplayed Tracks" box. The session will then also list these tracks in grey (along with the tracks you actually played). Alternatively, you can manually mark or unmark tracks as played by selecting a track (or a group of tracks) and clicking the "Mark as Played" or "Mark as Unplayed" button. This may be useful if you play a track off regular vinyl or CD (which breaks the A-B algorithm).

Songs that you have played are marked as yellow in your Library. Click the "Clear" button to reset the list of recently played tracks and turn the color of your Library back to white.

LIBRARY ZOOM

You can zoom in or out of the library to make the text bigger or smaller using the following keyboard shortcuts:

- Zoom In: CTRL + "+"
- Zoom Out: CTRL + "-"

SCRATCH LIVE COMPATIBILITY

Serato ITCH uses the same Library as Serato Scratch LIVE. If you are an existing Scratch LIVE user, all your music, loops, and Cue Points will be available in Serato ITCH. If you create a library in Serato ITCH then install Scratch LIVE, the music, loops, and Cue Points from Serato ITCH will automatically be available in Scratch LIVE, as well. Any changes made in either program will be written to the library, so if you have existing loops or Cue Points, be aware of this when moving between systems.

USING EXTERNAL DRIVES

Any external hard drive connected to your computer will be shown in the Files panel. You can load files by navigating the hard drive and locating your audio files. You can then drag them onto the Library or into Crates or Sub-Crates just as you would do when importing from the hard drive of your computer. The Crate information for files on your external drive is stored on the drive itself. This means if you add tracks on an external drive to your Library then plug that external drive into another machine running either Serato ITCH or Scratch LIVE, the Crates and tracks will automatically be visible in the Library.

MIXING WITH THE NS6s

PLAYING YOUR FIRST TRACK

This section describes the basic steps to start playing tracks with the NS6 and Serato ITCH so you can start mixing.

RESETTING THE MIXER

It's a good idea to set the NS6 to the default settings before playing. To reset the NS6, set its CHANNEL FADERS all the way up, turn all EQ knobs to "12 o'clock," and set the MASTER, MONITOR, and BOOTH levels at "0." Place the CROSSFADER on the side where you will load your first track.

NAVIGATING THE LIBRARY

The Library contains all the music you have added to Serato ITCH. By using **Browse** and **Search** you can easily narrow your selection to find the track you want. You can also search your Library by keyword using the computer keyboard (see LIBRARY MANAGEMENT for more information). You can use the following controls to navigate the Library:

Hardware Controls:

- **FILES:** Use the FILES button (and FWD and BACK buttons) on the NS6 to access the file directories in the software.
- **CRATES:** Use the CRATES button (and FWD and BACK buttons) on the NS6 to access your Crates in the software.
- **SCROLL KNOB & FWD / BACK:** Use the SCROLL KNOB on the NS6 to move through the software, scroll through menus, and press it to select what you want. You can also use the FWD / BACK buttons on the NS6 to navigate through the software.

Mouse & Keyboard: In addition to the NS6's controls, you can use your computer's keyboard and mouse to navigate your Library. The cursor keys function as Up, Down, Forward, and Back buttons, or you can use "Page Up" and "Page Down" for faster scrolling. The mouse can select the different modes (e.g. Repeat or Playback Modes) and make Artist, Album, Genre, or BPM selections.

LOADING A TRACK TO THE DECK

Once you have located the file you want to load in the Library, you can load it either with the NS6, the mouse, or the keyboard. To get started, load a track to a Deck:

Hardware Controls: Use the LOAD A or LOAD B buttons on the NS6 to load a selected track to Deck A or Deck B (respectively).

Keyboard: Press "Shift" and the "Left" cursor key to load a track to Deck A. Press "Shift" and the "Right" cursor key to load a track to Deck B.

Mouse: To load a track using the mouse, drag and drop the selected track over the **Virtual Deck**.

When using the hardware controls or the keyboard, be mindful of what Layer is selected on Deck A or Deck B. For instance, if you want to load a track to Deck 4, make sure Layer 4 is selected – not Layer 2. (The currently selected Layer's number will be lit next to that Deck's LAYER button on NS6. The Virtual Deck in the software will be spinning next to the currently selected Layer, as well.)

STARTING PLAYBACK

To begin playback press the PLAY / PAUSE button on the NS6. If you have just loaded a track, this will start playback from the beginning of the track (unless you have manually moved the Audio Pointer before playing it). Pressing PLAY / PAUSE during playback will pause playback at the current position. Pressing it again will resume playback from that position. If a Deck's Fader Start is activated, moving the NS6's CROSSFADER towards that Deck will cause it to begin playback. Moving it away from the Deck will stop playback and return the Audio Pointer to the start of the track.

ADJUSTING GAIN

The GAIN knob at the top of the NS6's Channel Controls allows you to boost or cut the audio level of the track before you control it with the CHANNEL FADER during the mixing process. We recommend having the level of the track adjusted such that the loudest part of the song causes the first 2 red lights on the LED METERS to light up without being permanently lit. Setting the GAIN so both tracks' levels behave like this makes it easy to balance the mix between them with the EQ and faders. If you set the gain level too high, the limiter in ITCH will activate to attempt to prevent the audio from clipping or distorting. When activated, the audio will be suppressed and the limiter light will appear at the top of the ITCH screen to alert you to decrease the gain level.

You can also give the Master Mix (including the BOOTH OUTPUT signal and MIC / AUX signal) an extra boost by increasing its Overdrive setting in the Mixer tab of the Setup screen. (See MIXER in the SOFTWARE SETUP section for more information.)

EQUALIZATION

Equalization (EQ) is used to boost and cut specific frequencies. EQ is used to balance the sound of 2 tracks that have been mastered differently, to make a track sound "right" on your particular system, or for creative mixing techniques. The NS6 features 3-band EQ (low, mid and high). The knobs go from full cut (or "kill") when turned all the way left, "unity" (or "flat" response) when facing straight up, and 6 or 12 dB of boost when turned all the way to the right, depending on the EQ setting in the Mixer tab of the Setup screen. (See MIXER in the SOFTWARE SETUP section for more information.)

With EQ, less is usually better. When boosting, do so sparingly, especially when you can cut other frequencies instead. For example, if you have a track with too much mid-range frequencies, rather than boosting the bass and treble to compensate, it is better to cut back the mid-range frequencies. Also, every speaker system and room has a different frequency response so you will need to adjust your EQ to suit not only the music you are playing but the room in which you are playing it.

MIXING IN THE NEXT TRACK

FINDING THE NEXT SONG

Once you have the first track playing, you need to find the next song to mix in. Browse your Library to find a suitable song (using the same process described in the PLAYING YOUR FIRST TRACK section). The BPM column is useful for finding a track with a similar tempo to the current song.

LOADING IT TO THE DECK

Before loading the next track, be sure the CROSSFADER is pushed over to the side of the currently playing track (so that only that track will play through the speakers). Load the next track to the other Deck (using the same process described in the PLAYING YOUR FIRST TRACK section). (Note what Layer you are loading the track to, especially as you repeat this process while creating a four-track mix.)

PREVIEWING IT IN THE HEADPHONES

When the SPLIT CUE switch is in the ON position, the headphone audio will be "split" such that all channels sent to CUE are mixed to mono and applied to the left headphone channel and the Program mix is mixed to mono and applied to the right channel. When the SPLIT CUE switch is in the OFF position, Cue and Program audio will be "blended" together. Use the CUE BLEND fader to balance between the audio levels of the Cue and Program audio in the headphones while cueing. The HEADPHONE VOLUME knob on the Front Panel controls the headphone volume. You can also give the headphone volume an extra boost by increasing its Overdrive setting in the Mixer tab of the Setup screen. (See MIXER in the SOFTWARE SETUP section for more information.)

FINDING THE RIGHT PART OF THE SONG

■ Track Overview

This view provides a complete overview of the waveform of the track (in the **Waveform** display) and includes a marker to show the current position within the track (the Audio Pointer). This view is useful for finding good places to transition within the track.

The waveform is colored according to the spectrum of the sound: red representing low-frequency bass sounds, green representing mid-frequency sounds, and blue representing high-frequency treble sounds.

Hardware Controls: You can use the STRIP SEARCH on the NS6 to move the Audio Pointer to a certain point the track by touching it (to make it jump to that point). The length of the STRIP SEARCH sensor represents the length of the *entire* waveform as displayed in the software.

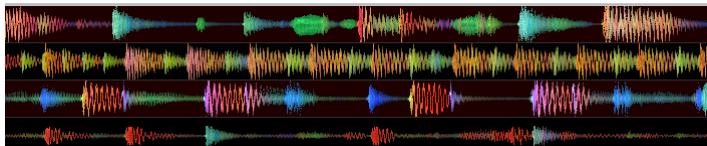
Mouse: You can make the Audio Pointer jump to different points within the track by clicking on the Track Overview display with the mouse.

Gray lines behind the track's waveform indicate the time within the track: a thin grey line marks each minute, and a thicker grey line marks each 5-minute interval. The overview will be filled when you load the track onto a **Virtual Deck**.

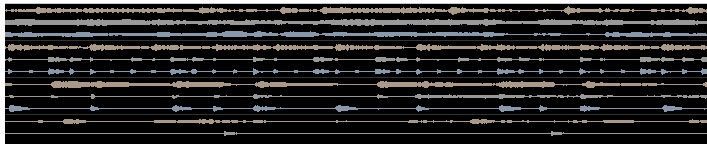


■ Main Waveforms

This view provides a close-up view of the track, including color-coding to show the frequency of the sound; red representing low-frequency bass sounds, green representing mid-frequency sounds and blue representing high-frequency treble sounds.



You can also switch to a three-band spectrum view by holding the "Ctrl" key on your keyboard and clicking on the waveform with the mouse. In this view, the top waveform represents the low-frequency band, the middle represents the mid-range, and the bottom represents the high.



To "scrub" or make fine adjustments to your position within the track, click on the waveform with the mouse. The Main Waveform view will zoom into the current position in the track. You can use the "+" and "-" keys on your keyboard to zoom in and out.

■ Temporary Cue

This function allows you to set a Temporary Cue Point in a track that is not saved into the file (regular Cue Points will be recalled everytime you load the track). This is useful for finding a point in a song and then being able to start again easily from this point as you get your mix right.

To set a Temporary Cue Point, assign a track to the Deck, move the Audio Pointer or let the track play to the desired location, and press CUE. Your Temporary Cue Point is now set.

To return to the Temporary Cue Point, press CUE while the track is playing. The track will return to the Temporary Cue Point and playback will be paused.

Holding down CUE will start playback from the Temporary Cue Point. From here, you can:

- release CUE to return to the Temporary Cue Point and pause playback. This is good for "stuttering" in the start of a track.
- hold the PLAY / PAUSE button and CUE simultaneously and release both buttons to continue playback. This allows you to cue a track in from pause mode and then continue playback once you know the mix is right.

GETTING THE TRACKS IN TIME

The playback speed of the track (tempo, measured in beats per minute or BPM) is controlled by the PITCH FADER. Moving the PITCH FADER up will slow the track down, moving it down will speed the track up. This allows you to take two tracks with different tempos and mix them together in time.

The default range of the PITCH FADER is $\pm 8\%$ from the track's initial tempo. You can change its range to $\pm 16\%$ or $\pm 50\%$ by pressing the PITCH RANGE button on the NS6. The range will be displayed in the software in the Deck, in the **Range** field under the Artist and Track Name. (See the ADVANCED FEATURES section for more information.)

The simplest way to adjust one track's tempo to match the other is to move the PITCH FADER until their BPM values are the same. By repeatedly playing from the Temporary Cue Point and making fine adjustments with the PITCH FADER (and possibly experimenting with the PITCH RANGE), you can get the tracks playing at exactly the same speed.

Tip: You can easily match the tempo of one Deck to the other by pressing the SYNC button. See the ADVANCED FEATURES section for more information about using SYNC.

■ Tempo-Matching Display

Click on the Sync panel (above the Beat-Matching Display) to reveal the Tempo-Matching Display. The Tempo-Matching Display provides a helpful tool for matching tracks' tempos. Serato ITCH detects the tempos of the tracks and displays rows of red and orange peaks (corresponding to the track's font colors). When two tracks on the same side are matched to the same tempo, these peaks will line up.



Note: This display does not show the relative timing of the beats, only the tempos of the tracks. The peaks will still line up when the tracks are playing at the same tempo, but are out of sync. To match the beats, see the DROPPING A TRACK IN section below.

Note: This display shows the tempos of all four Decks, so be mindful of this when matching one Deck's tempo to another.

DROPPING A TRACK IN

The NS6's PLATTERS are touch-sensitive. When a PLATTER's SCRATCH and SKIP button are off, that PLATTER is in Nudge Mode. In Nudge Mode, moving the PLATTER backwards or forwards will temporarily bend the speed of the track faster or slower (respectively). This is for when you have two tracks mixed together but they are not quite in time. By "nudging" the platter back and forth you can ensure that the beats are aligned.

In Scratch Mode, touching and holding the platter will stop playback just like with a record. Moving the platter will scratch backwards and forwards through the track as if you were using actual vinyl. You can also "nudge" while in Scratch Mode by turning the aluminum platter itself without touching the black top (the imitation vinyl). You do this by using the edges (similar to using the rails on a turntable to get tracks in time).

Tips:

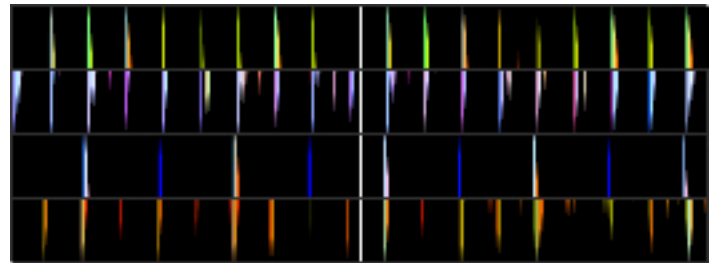
- You can use the PITCH BEND buttons to temporarily jog the tempo of the track, which is just like nudging the PLATTER. These will work whether the PLATTER is in Nudge Mode or Scratch Mode.
- Use the Temporary Cue functions to start from a Temporary Cue Point repeatedly. You can drop the track in a few times until you get it right.

■ **Beat-Matching Display**

This view shows the position of beats within the track. When the peaks shown in this window are aligned, the tracks' beats are matched. You can easily tempo- and beat-match your tracks by using the Tempo- and Beat-Matching Displays together.

Example:

1. As a track is playing in Deck 1, load and play a track in Deck 2. After a few seconds, red peaks will appear in the Tempo-Matching Display (representing the tempo of Deck 2's track) below a set of orange peaks (the tempo of Deck 1's track).
2. Adjust the pitch of Deck 2's track using the PITCH FADER until the red peaks are aligned with the orange peaks in the Tempo-Matching Display. Once they are aligned, the two tracks have the same tempo.
3. Next, align the markers in the Beat-Matching Display using the PLATTERS in Nudge Mode. It is helpful to watch the colors passing by in the Main Waveform Display (remember that a kick or bass drum will likely be red in color, and a snare drum will likely be green or blue). This technique may speed up the process of beat-matching.



Note: This display shows the beats of all four Decks, so be mindful of this when matching one Deck's tempo to another.

ADVANCED FEATURES

USING PITCH / TEMPO CONTROLS

The following functions allow you to manipulate the pitch and speed of a track to aid the mixing process.

■ Pitch

This number is the current percentage pitch difference from 0%. The amount by which you can increase or decrease this interval will vary with the **Pitch Range**.



■ Pitch Range

The PITCH RANGE button allows you adjust the range of the PITCH FADER to $\pm 8\%$, $\pm 16\%$, and $\pm 50\%$ of the original speed of the track. The current range will be displayed in the software in the Deck, in the **Range** field under the Artist and Track Name.

■ Keylock

Normally, when you change the speed of a track with the PITCH FADER, you will hear a change in the key of the music. When the NS6's MASTER TEMPO button is on, even when you change a track's speed, its key stays the same. This is useful for avoiding two tracks sounding out of tune while mixing.

The NS6's MASTER TEMPO will be temporarily disabled as you are manipulating the PLATTER (i.e. when you are scratching) to create a natural scratching sound, but it will re-engage once you let it go.

■ Sync

Serato ITCH's Sync function helps simplify synchronizing your tracks' tempos. When you press the SYNC button on a Deck of the NS6, the button will light up and that track's tempo (BPM) will change to match the tempo of (in order of "preference"):

1. the opposite Deck, same Layer (e.g., Decks 1/2 or Decks 3/4)
2. the opposite Deck, alternate Layer (e.g., Decks 2/3 or Decks 1/4)
3. the same Deck, alternate Layer (e.g., Decks 1/3 or Decks 2/4)
4. itself, and the Master BPM will become that track's BPM

Note: For a Deck to be synced, its track must be playing over the Program Mix.

The Deck whose SYNC button you press becomes a "Slave" Deck; the Deck it syncs to becomes the "Master" Deck. The BPM of the Master Deck will become the Master BPM, which is displayed on the Master BPM Display in the center of the four Decks. (If the Tempo-Matching Display is shown, click on it to show the Master BPM Display instead.) The PITCH FADER of the Master Deck can control the Master BPM (and, consequently, the pitch of any synced Deck).

Note: The PITCH BEND buttons will still operate independently on each Deck, even while in Sync Mode. In other words, the Master Deck's PITCH BEND buttons will only jog the tempo of its own Deck.

If a new track is loaded to the Master Deck, the new track will automatically sync to the Master BPM, but its PITCH FADER will no longer control the Master BPM. (The Slave Decks will remain synced to the Master BPM.)

Tip: Before taking any Slave Deck out of Sync Mode, note the arrows in the **Pitch** field. This is the Pitch Navigator. An arrow pointing up indicates the Deck's pitch must be increased to match the Master BPM. An arrow pointing down indicates the Deck's pitch must be decreased to match the Master BPM. Change the pitch accordingly (with the PITCH FADER) before taking it out of Sync Mode. This will ensure the tempo of your mix will remain constant.



BEAT GRID & SYNC

A Beat Grid is a series of markers within a track that indicate a beat or a transient within the music structure. A Beat Grid allows ITCH to know precisely where each beat occurs and where each bar is within the music structure. This accurate beat information opens up possibilities for users to further manipulate a track and for precise track syncing and advanced looping features.

Analyzing an audio file will calculate the average BPM of a given track. Some tracks' BPMs are linear, so setting an accurate Beat Grid is easy, only requiring you to set the first downbeat Beat Marker. If you have tracks with variable BPMs you can also set custom Beat Markers, which will snap the grid to the track more accurately.

Enable Beat Grid

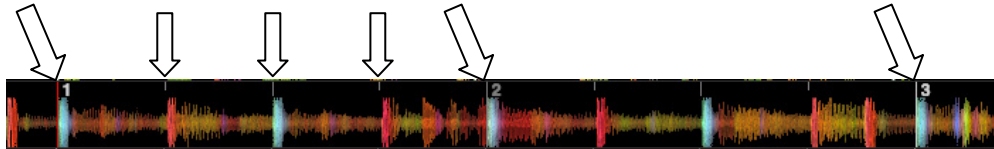
To turn on Beat Grid functionality, check the "Enable Beat Grid" option in the Playback tab on the Setup screen. (See the "Playback" tab described in the SOFTWARE SETUP section.)

Note: With the "Enable Beat Grid" option on, the Sync and Auto Tempo functions in ITCH now behave differently. (See "Sync Using Beat Grid" below).

Beat Grid Waveform View

The Beat Grid is placed on top of the waveform overview. It is displayed as follows:

- A thick white line indicates the beginning of each Beat Grid Bar.
- Each Beat Grid Bar has the bar number at the top of the marker.
- The first Beat Marker is called the Downbeat Marker and is a thick red line on the first beat.
- The Downbeat Beat Marker will be bar number 1.
- Each Beat Grid Bar is divided up into 4 thin line divisions.
- A thick red line also indicates a manually set Beat Marker.



Before Creating a Beat Grid

Setting up a Beat Grid relies on the track having an accurate BPM value so ITCH can set the Beat Grid markers on the track's beats or transients (see "How to Analyze Files" under the "Preparing Your Files" section in GETTING STARTED).

Note: BPM analysis is the most refined in the most current version of ITCH. If you started using a new version of ITCH, we highly recommend analyzing your library again in that new version. To do this, enter Offline Player Mode then hold down Ctrl and click the "Analyze Files" button.

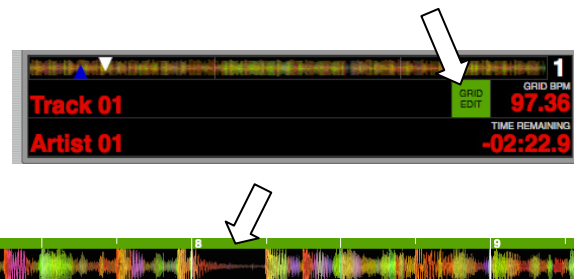
Creating a Beat Grid

ITCH will attempt to determine the first transient (this could be a kick drum or bass note) and use this to calculate the downbeat Beat Marker. Once the downbeat Beat Marker is set, ITCH uses the track's BPM to create a Beat Grid automatically throughout the track. If the BPM is accurate, this could be all you need to do. If not, you may need to adjust the Beat Grid, or manually set more Beat Markers to allow for some tempo variations.

To check if the Beat Grid has calculated the markers correctly, skip forward through the track and see if the markers fall on the beats or not (after a breakdown is a good place). We also recommend skipping to the track's outro and see if the markers are still falling on the beats.

Editing a Beat Grid

If the Beat Grid requires editing, turn on Grid Edit Mode by pressing Alt + spacebar (repeated pressing of this toggles between the Virtual Decks) or by clicking the "Grid Edit" button on the Virtual Deck. When Grid Edit Mode is on, the Grid Edit button on the Virtual Deck will flash and a green bar will appear above the waveform. To turn Grid Edit Mode off, press "Esc" or click the Grid Edit button again.



Grid Edit Mode can be used with your ITCH hardware connected or in Offline Player Mode. You may find it easier to make adjustments to the Beat Grid with the track not playing. To save changes made to a Beat Grid, press Enter. (Pressing "Esc" or clicking the Grid Edit button will exit Grid Edit Mode without saving any changes you have made to the Beat Grid.)

To edit the Beat Grid, use the following functions:

Set a Beat Marker

Pressing NS6's SET button or pressing your keyboard's X or Alt button + double-clicking with the mouse will place a Beat Marker at the playhead position. The Beat Marker will snap to the closest transient. By default, ITCH will place a Beat Marker on the first detected transient.

Tip: Set new Beat Markers where there is a tempo change in the track to allow the tempo to warp around these points. With the track playing you can tap or click in Beat Markers on the fly. The Beat Markers will snap to the closest transient.

Deleting a Beat Marker

If you have set an incorrect Beat Marker, you can delete one, several, or all markers. To delete the closest marker to the playhead, press NS6's CLEAR button (while also holding NS6's SHIFT button) or press your keyboard's Delete key or Alt + Shift + click with the mouse. To clear all Beat Markers, press Shift + Delete.

Adjust the Beat Grid

The Beat Grid may not always be correctly placed, which means the bars may not line up exactly with the transients, so you may need to make occasional adjustments. To adjust the Beat Grid so the bars align with the transients, hold NS6's ADJUST button (while also holding NS6's SHIFT button), or use your keyboard's left and right arrow keys or Alt + click and hold on a bar then drag it. The Beat Grid will expand or contract to follow your movements from your last set Beat Marker to the next Beat Marker. (If there is no next Beat Marker set then it will adjust to the end of the track.) To quickly adjust the Beat Grid, press Shift + left and right arrow. You can also tap-adjust the Beat Grid "on the fly" by tapping the space bar in time with the track. The Beat Grid will adjust in time with the tapped beat.

Tip: For all the left and right arrow key commands, you can use the up and down arrow keys instead when in vertical display mode.

Slip the Beat Grid

If your Beat Grid is sitting perfectly on the track's transients but the track's Downbeat Beat Marker is incorrect or the groove or feel is sounding slightly off, you may need to slip the Beat Grid. This will move the entire Beat Grid along as it is, to get a perfect fit with the other track's groove.

To slip the Beat Grid, hold NS6's SLIP button and move the corresponding PLATTER, or press your keyboard's Ctrl + left and right arrow. To slip the Beat Grid quickly, press Shift + Ctrl + left and right arrow.

Tip: For all the left and right arrow key commands, you can use the up and down arrow keys instead when in vertical display mode.

Sync Using Beat Grid

Once your tracks have accurate Beat Grids, you can now use them to easily sync two tracks together. Press SYNC to snap the Beat Grid of the track to that of the Beat Grid of the track on the other Deck using the Master Clock. If the tracks start to fall out of time, press SYNC again to re-sync them. To turn sync off, press DELETE/SHIFT and SYNC. When sync is off, pressing DELETE/SHIFT and SYNC will toggle turning Auto Tempo on and off. You can still use the PLATTERS to manipulate the audio while synced, though this can cause the Beat Grids to fall out of alignment. Press SYNC to re-sync the tracks.

When you press the SYNC button on a Deck of the NS6, the button will light up and that track's tempo (BPM) will change to match the tempo of (in order of "preference"):

1. the opposite Deck, same Layer (e.g., Decks 1/2 or Decks 3/4)
2. the opposite Deck, alternate Layer (e.g., Decks 2/3 or Decks 1/4)
3. the same Deck, alternate Layer (e.g., Decks 1/3 or Decks 2/4)
4. itself, and the Master BPM will become that track's BPM

Note: For a Deck to be synced, its track must be playing over the Program Mix.

USING CUE POINTS

To create a Cue Point, simply press any unlit HOT CUE BUTTON on the NS6. The button will then light up white to show that there is a Cue Point set. Once it is set, you can jump to it at any time by pressing that HOT CUE BUTTON.

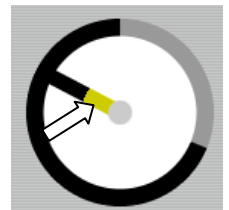
While playback is paused, holding a HOT CUE BUTTON down will play from its Cue Point. When you release it, it will return to the Cue Point and remain paused.

To delete a Cue Point, press or hold the DELETE CUE button to enable Delete Cue Mode, then press a HOT CUE BUTTON that is lit red to erase its Cue Point. Pressing the DELETE CUE button to enable Delete Cue Mode will let you delete one Cue Point at a time. Holding the DELETE CUE button to enable Delete Cue Mode will let you delete multiple Cue Points

Note: Cue Points cannot be overwritten. You must first erase a Cue Point while in Delete Cue Mode before assigning a new Cue Point to that HOT CUE BUTTON.

■ Cue Point Status

The stripe on the rotating part of the Virtual Deck jumps to the "12 o'clock" position and changes color whenever you set a Cue Point. You are at the Cue Point when the stripe is one solid color and at the "12 o'clock" position. As the Audio Pointer moves beyond the Cue Point, the stripe will shorten by a fifth after each rotation. As the Audio Pointer approaches the Cue Point, the stripe will grow by a fifth after each rotation.

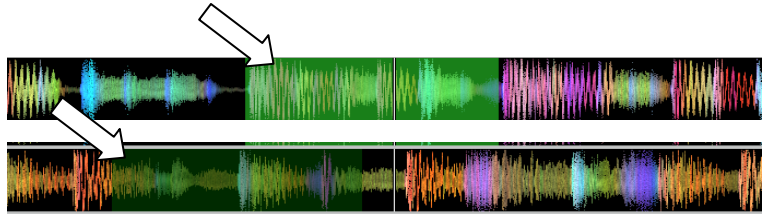


LOOPING

Use the NS6's LOOP CONTROLS area to create loops in your tracks. The bottom four LOOP CONTROL buttons have two modes. In Manual Mode, the MODE button is lit red, and the four buttons are IN, OUT, SELECT, and RELOOP. In Autoloop Mode, the MODE button is lit white, and the four buttons can create 1-, 2-, 4-, and 8-beat loops. This section will help you understand the two modes and how to use the controls.

■ Setting a Loop

In Manual Mode, pressing the IN button will set the beginning of your loop – the "Loop In" point. Pressing the OUT button will set the endpoint of the loop – the "Loop Out" point and begin playing the loop from the beginning. (To cancel a loop after pressing LOOP IN, press SELECT, which will toggle out of that loop without completing it.) Loops are highlighted green sections in the Main Waveform display in the software.



■ Autolooping

In Autoloop Mode, pressing the 1, 2, 4 or 8 button will set a 1-, 2-, 4-, or 8-beat loop (respectively). Each loop you set in this fashion will start from the Audio Pointer's location when the button is pressed, and that button will light up white. Pressing the button again will exit the loop and delete it. (**Note:** Due to the way the software analyzes beats per minute (BPM), the length of 1-, 2-, 4-, and 8-beat loops will vary between tracks with different BPM readings.)

Hold DELETE CUE / SHIFT and any of these buttons to access their alternate functions:

- **IN, OUT, SELECT, RELOOP:** Triggers Loop Roll in eighth, quarter, half, or one note measurements.
- **1/2 X, 2 X, SHIFT LEFT, SHIFT RIGHT:** Jumps to stored loops 1, 2, 3, or 4 (respectively) and instantly reloops them.

■ Turning a Loop On or Off

Press SELECT to toggle through the loops in the track. Turn a select loop on or off with the LOOP CONTROL ON / OFF button. If the Deck is already looping when you turn it off, it will exit the loop as playback continues. If the Deck is not looping, the currently selected loop will be enabled (once the Audio Pointer enters the loop region).

■ Editing a Loop

Press SELECT to toggle through the loops in that track. When you have selected the one you want, you can edit it a number of ways:

- **Manually Edit:** While in a loop, you can press the IN or OUT buttons to enable you to move the "Loop In" or "Loop Out" points (respectively) using the PLATTER. When you are done editing, press the same button again.
Tip: As you are adjusting your loop point with the PLATTER, a lit LED will "wrap around" on the NS6's BPM METER. It will rest on the white center LED whenever the loop's length has been doubled or halved exactly. This feature will only work properly if there is a BPM entered for that track.
- **Reloop:** Press the RELOOP button to jump to the start of the selected loop and enable it. If the deck is already looping when you press it, the Audio Pointer will jump to the start of the loop and continue. If no loop is set, nothing will happen.
- **Halve / Double:** Press the 1/2 X button to halve the length of the selected loop, or press the 2 X button to double its length. The green highlighted region in the Main Waveform view will update to show the change.
- **Shifting:** Press the SHIFT LEFT button to shift the selected loop region to the left, or press SHIFT RIGHT to move it to the right. It will move the loop region the same distance as the length of the loop itself. The loop region will remain unchanged.

■ Locking or Deleting a Loop

Next to the number of the selected loop on each deck, there are two icons: a "lock" and an "X." Clicking the "lock" icon with your mouse will prevent you from editing or deleting the currently selected loop. Clicking the "X" icon will delete the currently selected loop.



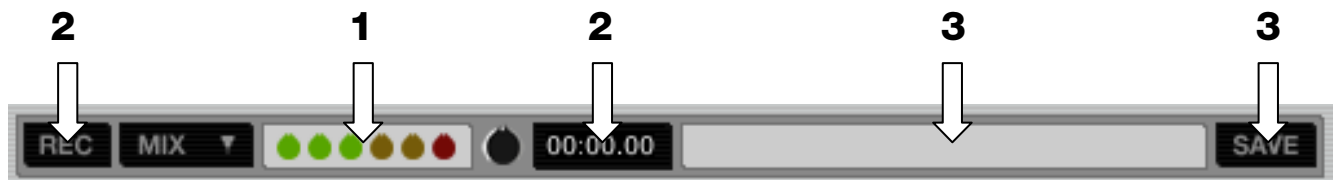
BLEEP / REVERSE

The NS6's BLEEP / REVERSE button reverses a track's audio playback in two different ways:

- When using the button as a REVERSE button, the playback of the track will be reversed. Returning the switch to its center (deactivated) position will resume normal playback from wherever the Audio Pointer stops.
- When using the button as a BLEEP button (while holding SHIFT and pressing this button), the playback of the track will be reversed. Returning the switch to its center (deactivated) position will resume normal playback from where it would have been if you had never engaged the BLEEP function (i.e., as if the track had been playing forward the whole time).

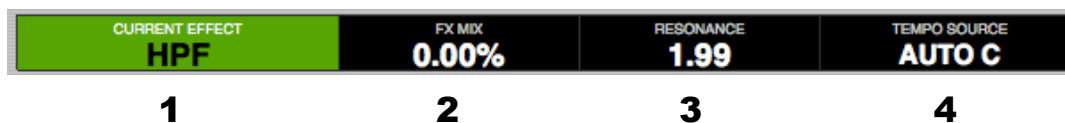
RECORDING

Serato ITCH can capture recordings of your Program Mix – post-faders/-EQ, and pre-MASTER VOLUME. Recording controls are grouped into a menu above Deck 2 in the software. To record:



1. Adjust the recording level using the appropriate controls for the source being recorded. The **Recording Meter** in the software shows the signal level that will be recorded to disk. We recommend that you set your levels so the loudest part of the mix causes the meter to enter the red zone only briefly.
2. Click the **Record** button to start recording. The length of the recording will be displayed in the **Recording Timer**. Press it again to stop recording.
3. Type a filename into the **Recording Filename** text field, and click **Save**. By default, recordings are saved as 16-bit 44.1 kHz stereo files (.AIFF) in the "Recorded" Crate inside your Main Library folder. (You can set it to record as WAV files by going to the Playback tab of the Setup screen.) The files can be accessed in **My Documents ► My Music ► Scratch LIVE ► Recording** (Windows) or **Users ► Music ► Scratch LIVE ► Recording** (Mac).

SERATO ITCH EFFECTS PANEL OVERVIEW



1. **EFFECT** – The currently selected effect applied to the channel (if the NS6's FX ON / OFF button is set to "on"). When browsing for a different effect to apply to the Deck, the name of the effect will be shown in this box (in a different color).
2. **FX MIX** – The amount of the current effect, which can be adjusted with the NS6's FX MIX fader.
3. **PARAMETER** – The parameter for the current effect, which can be adjusted with the NS6's FX PARAM knob. Generally, this is the intensity of the effect but may vary between effects.
4. **TEMPO SOURCE** – The current BPM for the track, which helps determine the speed of the CURRENT EFFECT (if it is rate-based). When this field reads "AUTO A" or "AUTO B," the effect will automatically follow the BPM of the track on Deck A or Deck B, respectively. If "MANUAL" is shown, it means neither Deck's track has a BPM. You can set the BPM (and change it at any time) by using the TAP TEMPO button. You can also return to the track's auto-BPM by holding down TAP TEMPO.

TRANSITIONING BETWEEN DJs

To smoothly transition between two DJs with one NS6 and two laptops with Serato ITCH:

1. While either deck is playing, play a "transition" track (through the Program Mix) from an audio source connected to one of NS6's MIC INPUTS. Make sure that channel's INPUT SELECTOR is set to "LINE/MIC."
***Note:** If the Mix Overdrive setting – in the Setup screen's Mixer tab – is set to boost the gain level of the Program Mix, we recommend reducing this to zero to avoid a noticeable volume change when you disconnect the NS6.*
2. Fade the other channels' volumes down to zero, then stop playback on all Decks.
3. On the next DJ's computer, open ITCH.
4. Disconnect the NS6 from the first computer and connect it the next DJ's computer.
5. Within ten seconds, the NS6 will be recognized and enabled in ITCH. Start performing!

WHITELABEL AUDIO FILES

Whitelabel audio files are a unique file format (file extension ".wl.mp3") developed by Serato. They are specially prepared for use in Serato ITCH – with files pre-analyzed, tagged with song and artist info, BPM readings, and album art where possible.

Whitelabel audio files play as high-quality, 320kbps stereo audio in Serato ITCH with an ITCH controller attached. Without an ITCH controller connected, or when playing these files through other mp3 software and devices, they will play as low-quality, 32kbps mono audio.

Whitelabel audio files are promotional releases from record labels available to ITCH DJs for free from <http://www.whitelabel.net>.

WHITELABEL.NET

The Serato Whitelabel Delivery Network is a unique system that allows record labels to deliver digital promotional releases directly to DJs. To download Whitelabel audio files, and to sign up to receive updates on the latest promotional releases, visit <http://www.whitelabel.net>.

LOCKED WHITELABEL.NET FILES

Due to some labels' licensing requirements, certain Whitelabel audio files will require e-mail and password verification to unlock them. If you have legitimately downloaded these tracks yourself, entering the e-mail and password you use for **whitelabel.net** will unlock the files for playback within Serato ITCH. If you are still having problems unlocking these files, please contact Serato technical support at <http://www.serato.com/support>.

SYSTEM REQUIREMENTS

Whitelabel.net is tested to work on these browsers:

- Internet Explorer 7 and above
- Firefox 3 and above
- Safari 3 and above

You will also need Adobe Flash Player installed and have Javascript enabled to be able to preview and download tracks.

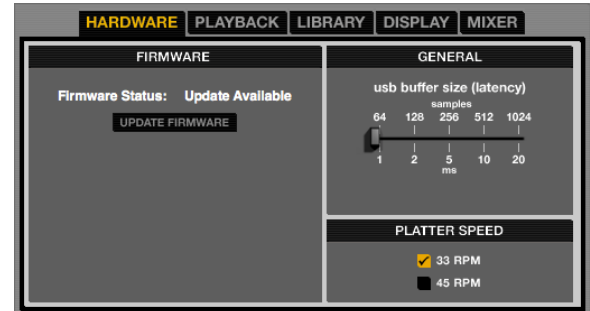
***Note:** Running Whitelabel audio files through Mixed In Key can cause the files to play only at 32kbps in Serato ITCH (even with an ITCH controller attached). At this time, we recommend not using Mixed In Key with Whitelabel audio files.*

UPDATING THE FIRMWARE

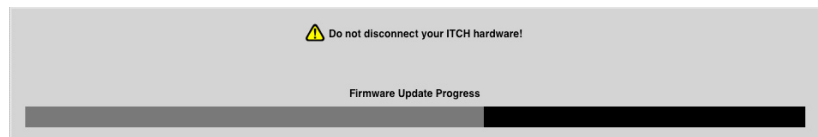
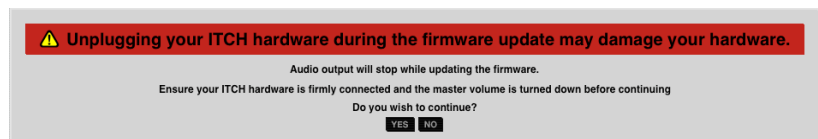
Occasionally, there may be an available firmware update for the NS6. If your computer is connected to the internet, Serato ITCH will automatically detect if you need to update it. Follow these steps when you need to update your firmware:

Note: Audio output will stop during a firmware update. Do not update your firmware in the middle of a performance.

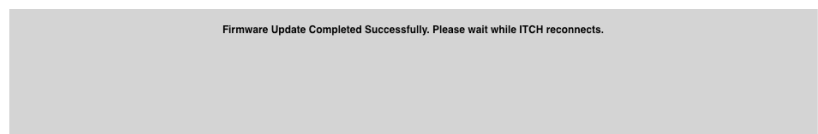
1. With your NS6 connected to the computer, go to the **Setup** screen and select the **Hardware** tab. You will see a message if there is an available firmware update.
2. Click the **Update Firmware** button.



3. A dialog box will appear warning you that audio output will stop during the updating process. Click "No" to cancel the update or "Yes" to confirm and continue.
4. A progress bar will appear as your firmware is updating. Do not disconnect the NS6 during this process.



When the update is complete, you will see a window confirming this. Wait while ITCH reacknowledges its connection with the NS6. You can resume performing when this is complete.



NS6 CALIBRATION

If you load new firmware to the NS6, or if you ever experience problems with your knobs or faders (a very rare occurrence), the NS6 can be recalibrated. Follow these instructions to calibrate the unit.

1. While holding the right Deck's SYNC button, turn the NS6's power on. HOT CUE BUTTONS 1-5 will flash.
2. Set both PITCH FADERS to the maximum position (closest to you).
3. Press the left Deck's SYNC button.
4. Set both PITCH FADERS to the minimum position (farthest from you).
5. Press the left Deck's SYNC button.
6. Set both PITCH FADERS to the center position.
7. Press the left Deck's SYNC button.
8. On the left Deck's STRIP SEARCH sensor:
 - a. Touch and hold the right-most position (where you would ordinarily touch to jump to the end of a track). Press the left Deck's SYNC button.
 - b. Touch and hold the left-most position (where you would ordinarily touch to jump to the start of a track). Press the left Deck's SYNC button.

Note: Make sure the whole pad of your fingertip – not just part of it – is touching the end of the STRIP SEARCH sensor.

9. Repeat Steps 8a-b with the right Deck's STRIP SEARCH sensor.
10. Calibration is complete! You may start using NS6.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
I'm seeing a "Hardware Disconnected" message in the software.	The USB cable is not properly connected to your computer or NS6.	Make sure both USB connections are secure.
	The software was opened before NS6 was connected.	Close the software and reopen after properly connecting and powering on NS6.
	NS6 not powered on.	
I'm experiencing some audio dropouts or slow response.	Other programs are draining your computer's CPU.	Close any unnecessary programs and turn off your computer's wireless card (or disconnect from the internet).
		Disable anti-virus software or other programs that regularly scan your computer or regularly search for an internet connection.
		Change the buffer size settings in the software (see "USB Buffer Size" on Page 12). At a larger buffer size, you should no longer experience audio dropouts, but there may be a slight delay when the software responds to the hardware (latency). At a lower buffer size, your computer will respond more quickly (less latency), but your computer needs to be fast enough to prevent audio dropouts or other issues. Experiment to find the optimal settings for your computer.
Software closes or freezes as soon as it opens.	iTunes 8.0.2 (and higher) is interfering with how the software scans its libraries.	Downgrade your version of iTunes at http://www.oldapps.com/itunes.htm .
I'm having problems scanning or searching through my iTunes library.		
I'm experiencing software problems when running my finger along the NS6's STRIP SEARCH.	The STRIP SEARCH sensor isn't meant to receive information in a "continuous" fashion (i.e., running your finger across it).	Only use the STRIP SEARCH as if you were dropping a needle on a record – touch it at only one point at a time. To scroll/scrub through the track, hold SKIP and spin the PLATTER instead.
The auto-BPM reading for a track is incorrect.	The software's BPM Range is not properly set for your track's tempo. (The BPM Range is restricting what BPMs are allowed.)	With the NS6 disconnected, set the software's BPM Range to an appropriate range that will allow the BPMs you want, then rebuild the overview for that track. (See "Auto-BPM" section.)
	Your track's rhythm is very syncopated or has bass drum or snare drum hits in odd places, causing a BPM miscalculation.	Manually tap a tempo for the track by pressing the Deck's TAP button (on the NS6) in time with the track.

For more information, visit:

<http://www.numark.com/ns6>
<http://www.serato.com/itch>

TECHNICAL SPECIFICATIONS

NS6

ANALOG

SNR (Full Signal Path):

Balanced Outputs (XLR):	> 99 dB (A-weighted)
Unbalanced Outputs (Line, RCA):	> 98 dB (A-weighted)
Unbalanced Outputs (Booth, RCA):	> 98 dB (A-weighted)
Headphone Outputs (1/4", 1/8"):	> 82 dB (A-weighted)

THD + N:

Balanced Outputs (XLR):	< 0.005% (A-weighted)
Unbalanced Outputs (RCA):	< 0.005% (A-weighted)
Headphone Outputs (1/4", 1/8"):	< 0.03% (A-weighted)

Frequency Response: 25 Hz – 20 kHz (± 2.5 dB)

DIGITAL

Sample Rate:	44.1 kHz
Bit Depth:	24-bit

HARDWARE

Weight:	13.95 lbs. (6.33 kg)
Dimensions (W x D x H):	23.8" x 13.4" x 2.5" (603 mm x 340 mm x 64 mm)

www.numark.com