

# DENON DJ PRIME 4

User Guide  
English

# Table of Contents

<b>Introduction.....</b>	<b>5</b>
Box Contents.....	5
Support.....	5
<b>Setup .....</b>	<b>6</b>
Devices & File Analysis .....	7
Configuration .....	7
<b>Features .....</b>	<b>8</b>
Top Panel.....	8
Front Panel .....	13
Rear Panel .....	14

- Operation ..... 15**
- Touchscreen Overview .....15**
- Performance View..... 15
- Track Overview & Waveform.....15
- Central Library Preview .....16
- Library View ..... 17
- Platter Display Overview .....18**
- Performing.....18**
- Loading Tracks..... 18
- Searching & Filtering Tracks..... 19
- Editing Crates and Playlists .....20
- Playback & Cueing ..... 21
- Looping & Beat-Jumping .....22
- Syncing & Pitch Adjustment .....22
- Pad Modes.....23
- Hot Cue Mode..... 23
- Loop Modes ..... 23
- Roll Mode ..... 24
- Slicer Mode ..... 24
- Menu ..... 25**
- Utility .....25
- Preferences ..... 27
- Source.....29
- Record .....29

<b>Appendix .....</b>	<b>30</b>
SATA Drive Installation .....	30
FX Parameters .....	31
Technical Specifications .....	34
Trademarks & Licenses .....	36

## Introduction

Thank you for purchasing the Prime 4. At Denon DJ, we know how serious music is to you. That's why we design our equipment with only one thing in mind—to make your performance the best it can be.

## Box Contents

Prime 4 Standalone DJ System  
Display Protective Cover  
Display Cleaning Cloth  
IEC Power Cable  
USB 3.0 Cable  
Hard Drive Mounting Screws  
Engine Prime Software Download Card  
Quickstart Guide  
Safety & Warranty Manual

**Important:** Visit [denondj.com/downloads](https://denondj.com/downloads) to download the Engine Prime software.

## Support

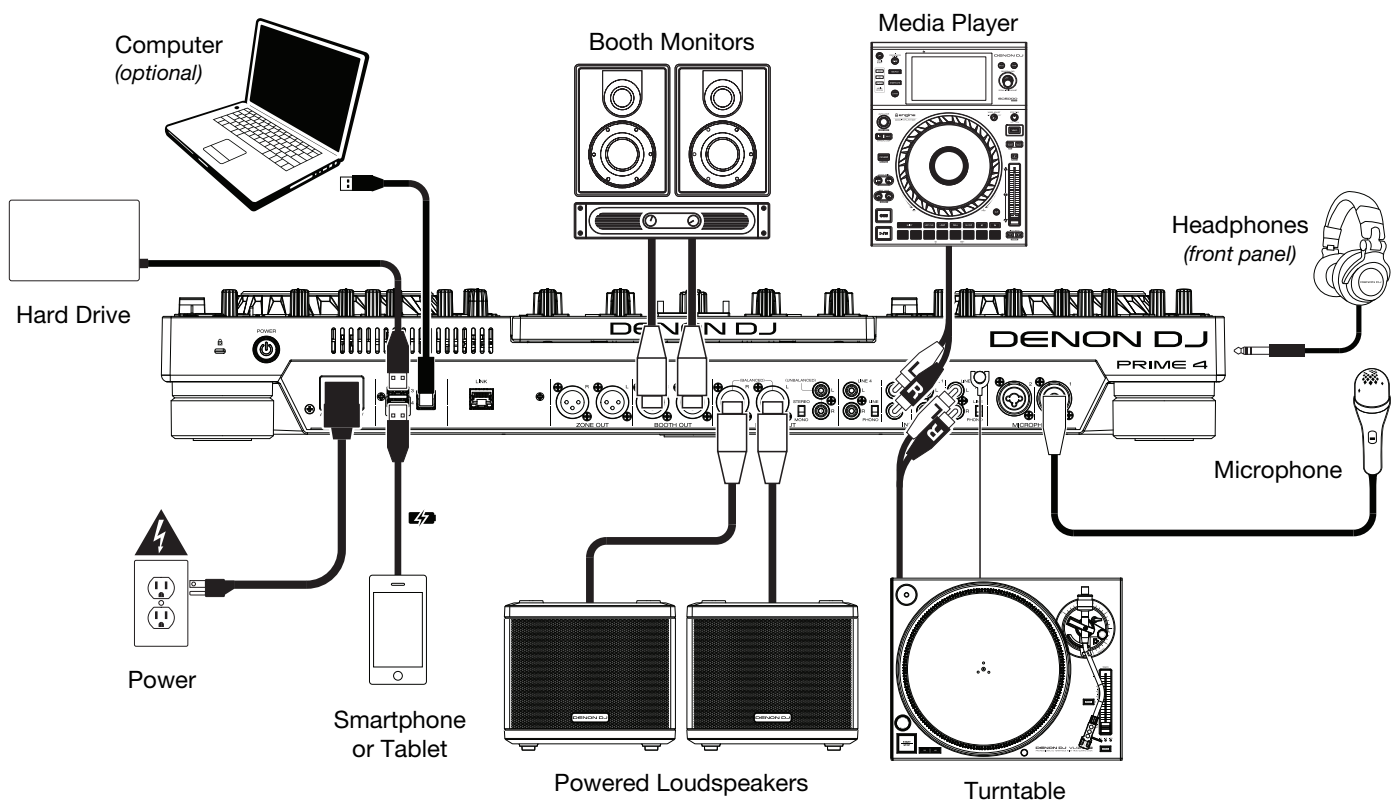
For the latest information about this product (documentation, technical specifications, system requirements, compatibility information, etc.) and product registration, visit [denondj.com](https://denondj.com).

For additional product support, visit [denondj.com/support](https://denondj.com/support).

## Setup

**Important:** Occasionally, we may update Prime 4's firmware to add exciting new features and improvements. Visit [denondj.com](http://denondj.com) to check for available firmware updates, especially after you update your software (firmware updates may address new software features).

1. Visit [denondj.com](http://denondj.com) and log into your account. (Create an account if this is your first Denon DJ product.)
2. In your account, download and install the latest version of Engine Prime. Double-click the **.exe** (Windows®) or **.dmg** (macOS®) installer file you downloaded, and then follow the on-screen instructions to install Engine Prime.
3. Connect input sources (microphones, CD players, etc.) to Prime 4.
4. Connect output devices (headphones, power amplifiers, loudspeakers, etc.) to Prime 4.
5. Plug all devices into power sources, and turn on devices in proper order:
  - When starting a session, turn on (1) input sources, (2) Prime 4, (3) output devices.
  - When ending a session, turn off (1) output devices, (2) Prime 4, (3) input sources.
6. **To use Engine** (standalone playback): Insert a USB flash drive or SD card (with an Engine-configured music library) to one of Prime 4's **USB ports** or **SD Card Slot**.



Items not listed under the [Introduction > Box Contents](#) are sold separately.

## Devices & File Analysis

Prime 4 can play music files from USB drives, SD cards, or other connected Prime 4 units. Make sure you are using only the supported file systems (for USB drives or SD cards) and file formats (for music files) listed below.

**Supported file systems:** exFAT, FAT32 (recommended)

<b>Supported file formats:</b> AAC/M4A	MP3 (32–320 kbps)
AIF/AIFF (44.1–192 kHz, 16–32-bit)	MP4
ALAC	Ogg Vorbis
FLAC	WAV (44.1–192 kHz, 16–32-bit)

Although Prime 4 can play tracks that have not been analyzed yet, pre-analyzing them allows its features to work most effectively. You can analyze tracks in one of two ways:

- **On Prime 4, load the track:** When you load a track to play, Prime 4 will automatically analyze it (if it has not already been analyzed). This may take a moment to complete, depending on the length of the track. You can start playing the track from the beginning **immediately**, though you will need to wait a moment for the analysis to finish.
- **Use Engine Prime software:** The included Engine Prime software can pre-analyze your music library to use with Prime 4. You can also use it to organize your library by creating crates and playlists. It also manages your Prime 4 hardware preferences (see [Operation](#) to learn more about this).

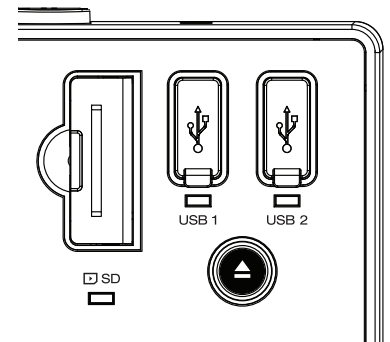
Visit [denondj.com/downloads](http://denondj.com/downloads) and find the webpage for **Prime 4** to download the Engine Prime software.

### To eject a USB drive or SD card:

1. Make sure none of its tracks are being played on any connected Prime 4 units. Ejecting a device unloads its tracks from **all** networked Prime 4 units.
2. Press **Eject**. A list of connected devices will appear in the main display.
3. Tap the eject icon for the device you would like to eject. If a track on the device is currently playing, you will be asked if you want to continue ejecting, which will stop the track and clear the deck. Tap **Cancel** to cancel ejecting the device, or tap **Eject Anyway** to eject it.

**To eject additional devices**, repeat Step 3.

**To return to the previous screen**, press **Eject** again, or tap the **X** in the upper-right corner.

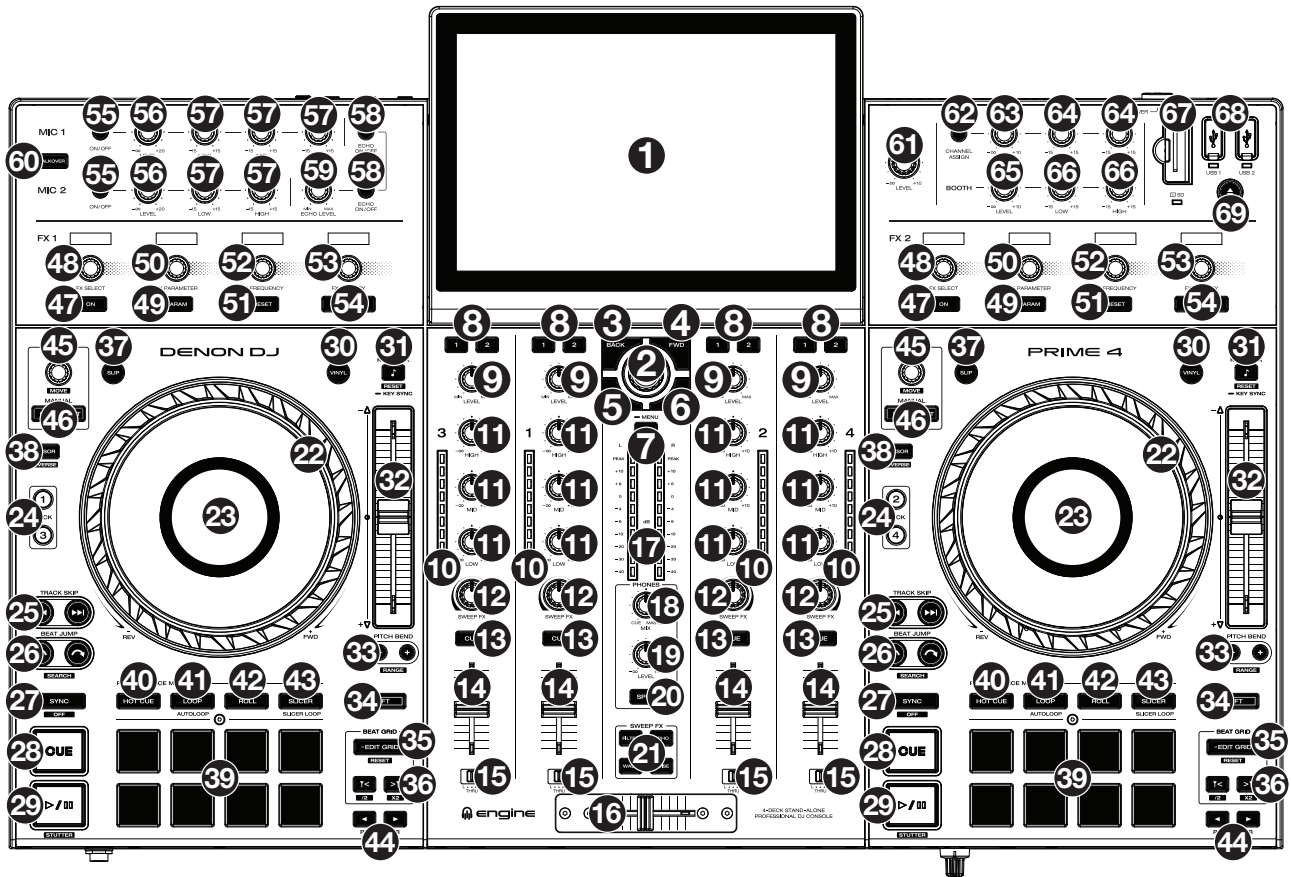


## Configuration

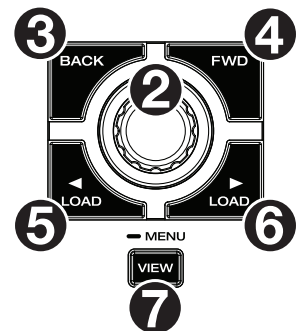
Prime 4 has several settings that you can customize in the Utility (basic settings) and Preferences (advanced settings) menus. See [Operation > Menu](#) to learn about these settings.

# Features

## Top Panel



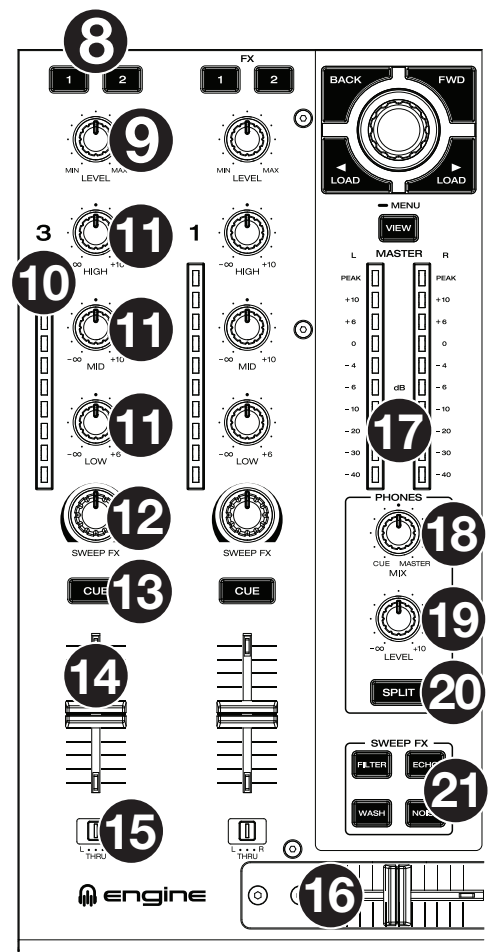
1. **Touchscreen:** This full-color multi-touch display shows information relevant to Prime 4's current operation. Touch the touchscreen (and use the hardware controls) to control the Prime 4 interface. See [Operation > Touchscreen Overview](#) for more information.  
**Tip:** If you adjust the angle of the touchscreen, use the stand on its back panel to secure it in place.
2. **Browse Knob:** Turn this knob to navigate through lists. Press the knob to move forward in the touchscreen or select an item.
3. **Back:** Press this button to move back in the **touchscreen**.
4. **Forward (FWD):** Press this button to move forward in the **touchscreen**.
5. **Load ◀:** Press this button to load the selected track to Deck 1 or Deck 3.
6. **Load ▶:** Press this button to load the selected track to Deck 2 or Deck 4.
7. **View:** Press this button to cycle between the Library and Performance views. Press and hold this button to show the Menu, which includes Source Selection, Record Menu and the Utility/Preferences Menu. See [Operation > Menu](#) for more information.





8. **Channel FX:** Use these buttons to route audio from the corresponding channel to the Effect 1 or 2 module.
9. **Channel Level:** Turn this knob to adjust the level of the pre-fader, pre-EQ audio signal for the channel.
10. **Channel Level Meters:** These LEDs display the audio signal level of the channel.
11. **Channel EQ:** Turn these knobs to boost or cut the high, mid-range, and low frequencies for the channel.
12. **Sweep FX:** Turn this knob to control the effect selected by the **Sweep FX buttons**.
13. **Channel Cue:** Press this button to send the channel's pre-fader signal to the headphones' cue channel.
14. **Channel Fader:** Use this fader to adjust the channel's volume level.
15. **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, **Thru**).
16. **Crossfader:** Use this crossfader to mix between channels assigned to the left and right sides of the crossfader.
17. **Master Level Meters:** These LEDs display the audio signal level of the master mix (sent out of the **Master Outputs**).
18. **Phones Mix:** Adjusts the software's audio output to the headphones, mixing between the **cue** output and the **master** mix output.
19. **Phones Level:** Adjusts the volume of the headphones.
20. **Split Cue:** When this switch is in the **On** position, the headphone audio will be "split" such that all channels sent to cue channel are summed to mono and sent to the left headphone channel and the master mix is summed to mono and sent to the right channel. When the switch is in the **Off** position, the cue channel and master mix will be "blended" together.
21. **Sweep FX Buttons:** Press one of these buttons to enable or disable an effect that you can control with the **Sweep FX knobs**. Only one of these buttons can be enabled at a time.

- **Filter:** This effect applies a filter to the channel. Starting from the center (12:00) position, turn a **Sweep FX knob** counter-clockwise to apply a low-pass filter, or turn it clockwise to apply a high-pass filter.
- **Echo:** This effect is a brief echo. Starting from the center (12:00) position, turn a **Sweep FX knob** counter-clockwise to decrease the length of the delay and increase the feedback, or turn it clockwise to increase the length of the delay as well as the feedback.
- **Noise:** This effect adds noise to the signal. Starting from the center (12:00) position, turn a **Sweep FX knob** counter-clockwise to add pink noise, or turn it clockwise to add white noise.
- **Wash Out:** This creates a transition effect. Turn a **Sweep FX knob** to its most counter-clockwise (minimum) position to apply a 1-beat echo that will also mute the channel's normal audio signal, or turn it to its most clockwise (maximum) position to apply a 1/2-beat echo.



22. **Platter:** This capacitive, touch-sensitive platter controls the audio playhead when the wheel is touched and moved. When the **Vinyl** button is on, move the **platter** to “scratch” the track as you would with a vinyl record. When the **Vinyl** button is off (or if you are touching only the side of the **platter**), move the **platter** to temporarily adjust the track’s speed.
23. **Platter Display:** This display shows track artwork and information relevant to the performance, including the current playhead position, the current auto loop size, or current layer. See [Operation > Platter Display Overview](#) for more information.

24. **Deck:** Selects which deck in the software is controlled by that hardware deck. The left deck can control Deck 1 or 3; the right deck can control Deck 2 or 4.

Press and hold **Shift** and then press the Deck 3 or Deck 4 buttons to switch between four-deck and two-deck operation.

25. **Track Skip:** Press either of these buttons to skip to the previous or next track.

Press the **Previous Track** button in the middle of a track to return to the beginning of the track.

26. **Beat Jump:** Press either of these buttons to skip backward or forward through the track. Use the **Auto Loop** knob to determine the beat jump size.

Press and hold **Shift** and then press one of these buttons to search backward or forward through the track.

27. **Sync / Sync Off:** Press this button to activate sync.

Press and hold **Shift** and press this button to deactivate Sync. You can also set Sync to deactivate without using Shift by changing the **Sync Button Action** setting in the [Preferences](#) menu.

28. **Cue / Track Start:** During playback, press this button to return the track to a temporary cue point. If you have not set a temporary cue point, then press this button to return to the start of the track. (To set a temporary cue point, make sure the track is paused, move the **platter** to place the audio playhead at the desired location, and then press this button.)

During playback, press and hold **Shift** and press this button to set the cue point at the current playhead position.

If the deck is paused, press and hold this button to play the track from the temporary cue point. Release the button to return the track to the temporary cue point and pause it. To continue playback without returning to the temporary cue point, press and hold this button and then press and hold the **Play** button, and then release both buttons.

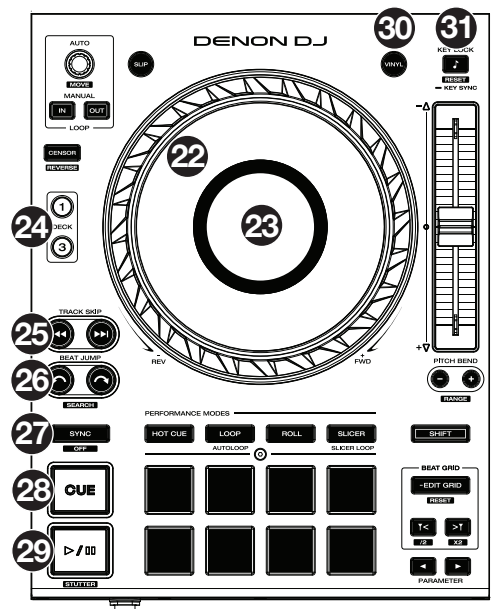
29. **Play/Pause:** This button pauses or resumes playback.

Press and hold **Shift** and then press this button to “stutter-play” the track from the initial cue point.

30. **Vinyl:** Press this button to activate/deactivate a “vinyl mode” for the platter. When activated, you can use the **platter** to “scratch” the track as you would with a vinyl record.

31. **Key Lock / Key Sync:** Press this button to activate/deactivate Key Lock. When Key Lock is activated, the track’s key will remain the same (0%) even if you adjust its speed. Press and hold **Shift** and press this button to reset Key Lock.

Press and hold this button to activate key sync.



32. **Pitch Fader:** Move this fader to adjust the speed (pitch) of the track. You can adjust its total range with the **Pitch Bend** buttons.

When you select another Deck with the **Deck** select buttons, the position of the **Pitch Fader** may not match the Pitch setting for the previous Deck. Slowly move the Pitch Fader in the direction indicated by the green takeover LED arrow until it turns off. At this point, the Pitch Fader matches the Pitch setting of the previous deck and can control it again.

33. **Pitch Bend -/+:** Press and hold one of these buttons to momentarily reduce or increase (respectively) the speed of the track.

Press and hold **Shift** and then press one of these buttons to set the range of the **pitch fader**.

34. **Shift:** Press and hold this button to access secondary functions of other controls.

35. **Edit Grid:** Press and hold this button to enable beat grid editing.

Press and hold **Shift** and then press this button to reset the beat grid.

36. **Grid Marker:** When beat grid editing is enabled, press either of these buttons to move a downbeat marker backward or forward based on the current analyzed grid.

Press and hold **Shift** and then press these buttons to halve or double the current tempo.

37. **Slip:** Press this button to enable or disable Slip Mode. In Slip Mode, you can jump to cue points, trigger loop rolls, or use the platters, while the track's timeline continues. In other words, when you stop the action, the track will resume normal playback from where it would have been if you had never done anything (i.e., as if the track had been playing forward the whole time).

38. **Censor / Reverse:** Press this button to activate/deactivate the Censor feature: the playback of the track will be reversed, but when you release the button, normal playback will resume from where it would have been if you had never engaged the Censor feature (i.e., as if the track had been playing forward the whole time).

Press and hold **Shift** and then press this button to reverse the playback of the track normally.

39. **Performance Pads:** These pads have different functions on each deck depending on the current pad mode. See [Performing > Pad Modes](#) for more information.

40. **Hot Cue:** Press this button to enter Hot Cue Mode.

41. **Loop:** Press this button once to enter Manual Loop Mode.

42. **Roll:** Press this button to enter Roll Mode.

43. **Slicer:** Press this button to enter Slicer Mode.

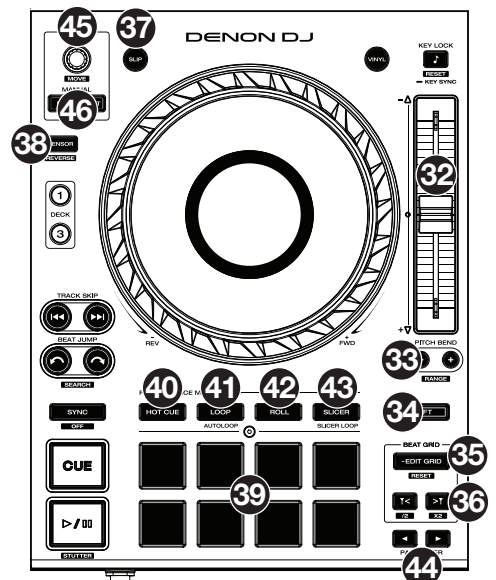
44. **Parameter ◀/▶:** Use these buttons for various functions in each Pad Mode. See [Performing > Pad Modes](#) for more information.

45. **Auto Loop/Loop Move:** Turn this knob to set the size of an automatic loop. The value will be shown in the touchscreen and platter display.

Press this knob to activate or deactivate an automatic loop at the current location of the track.

Press and hold **Shift** and turn this knob to shift the active loop to the left or right.

46. **Loop In/Loop Out:** Press either of these buttons to create a Loop In or Loop Out point at the current location. Their placement will be affected by the **Quantize** and **Smart Loops** settings. See [Performing > Looping & Beat-Jumping](#) for more information.



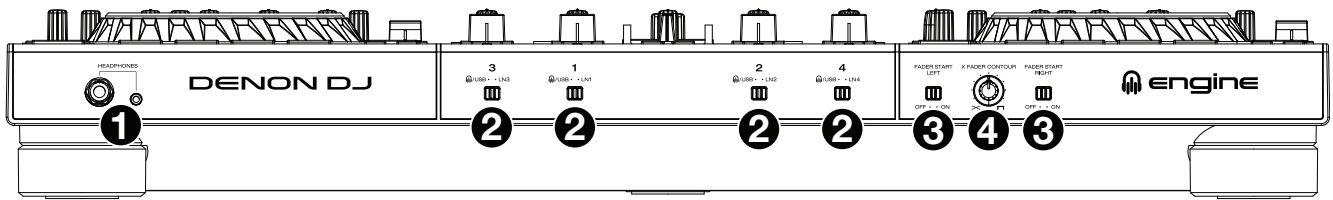


47. **FX On:** Press these buttons to enable or disable FX 1 and FX 2.
48. **FX Select:** Turn these knobs to select the active effect for FX 1 and FX 2.
49. **FX Parameter:** When lit, press this button to activate the secondary parameter for an effect.
50. **FX Parameter Knob:** Use these knobs to adjust the effect parameter.
51. **FX Reset:** Press these buttons to reset the FX Frequency to center.  
Press and hold **Shift** and press these buttons to set the effect to its default state, with Wet/Dry set to 0.
52. **FX Frequency:** Turn this knob to select a frequency band of the audio signal to which the BPM effects will be applied. Select the center (12 o'clock) position to apply effects to the entire spectrum of frequencies.
53. **FX Wet/Dry Knob:** Turn this knob to adjust the wet/dry mix of the effects.
54. **FX Beats Buttons:** Press either of these buttons to decrease or increase the rate of time-based effects on that deck.
55. **Mic On/Off:** Press this button to activate/deactivate the microphones.
56. **Mic Level:** Turn these knobs to adjust the volume levels of the corresponding microphone inputs. The **Peak** light next to each knob indicates the current signal level by its color: **green** (low), **amber** (normal/optimal), or **red** (maximum/peak). You can adjust the microphone attenuation in the Utility menu.  
**Important:** The audio signals from the microphones are routed directly to the **Master Outputs**.
57. **Mic EQ:** Turn these knobs to boost or cut the high, mid-range (Mic 1 only) and low frequencies for the corresponding microphones.
58. **Echo On/Off:** Press this button to activate/deactivate the reverb effect on the microphones' audio signal.
59. **Mic Echo Level:** Turn this knob to adjust the amount of the reverb effect on the microphones' audio signal.
60. **Talkover:** Press this button to use the "talkover" feature, which automatically reduces the volume level of the master mix when you speak into the microphone. You can adjust the talkover level in the Utility menu.
61. **Master Level:** Turn this knob to adjust the volume level of the **Master Outputs**.
62. **Zone Channel Assign:** Press this button to set Deck 4 as a Zone Playlist, which will play from the **Zone Outputs**. By default, the master output will play through the zone if a zone playlist is not assigned.
63. **Zone Level:** Turn this knob to adjust the volume level of the **Zone Outputs**.
64. **Zone EQ:** Turn these knobs to boost or cut the high and low frequencies for the **Zone Outputs**.
65. **Booth Level:** Turn this knob to adjust the volume level of the **Booth Outputs**.
66. **Booth EQ:** Turn these knobs to boost or cut the high and low frequencies for the **Booth Outputs**.
67. **SD Card Slot:** Insert a standard SD card to this slot. When you select that SD card as a source, you can use the display to select and load tracks on your SD card.
68. **USB 1/2 Ports:** Connect standard USB flash drives to these USB ports. When you select that USB flash drive as a source, you can use the display to select and load tracks on your USB flash drive.
69. **Eject:** Press this button to bring up on the touchscreen a list of connected media devices which can be ejected. Tap one of the listed media sources to eject that device. To prevent data corruption, drives must be ejected before being removed from the player.

**Note:** Although Prime 4 can play tracks that have not been analyzed yet, pre-analyzing them allows its features to work most effectively. We recommend using the Engine Prime software to configure your music library on your SD card or USB flash drive before connecting to Prime 4. See the complete [Engine Prime User Guide](#) to learn how to do this.

Press and hold **Shift** and press this button to open the **Source** menu.

## Front Panel

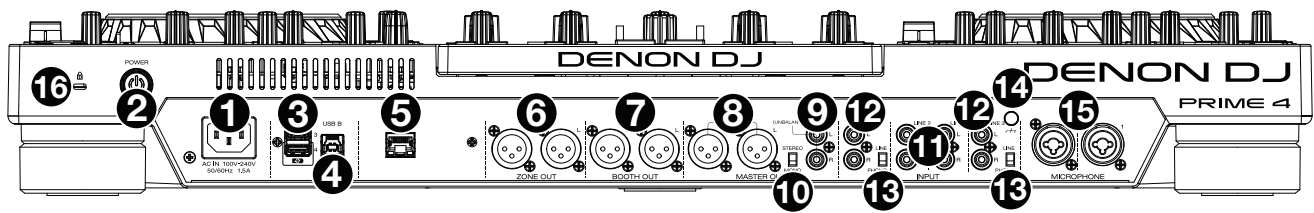


1. **Headphones (1/4", 1/8") (6.35 mm, 3.5 mm):** Connect your 1/4" or 1/8" (6.35 mm or 3.5 mm) headphones to this output for cueing and mix monitoring. The headphone volume is controlled using the **Phones Level** knob.
2. **Input Selector:** Set these switches to the desired audio source from this channel: **Engine/USB** (a track playing on that layer in the software, or from a connected USB flash drive or SD card), or **Line** (a device connected to the **inputs** on the rear panel).

**Note:** When using Line Inputs, only the **Filter Sweep FX** will be available.

3. **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.
4. **X-Fader Contour:** 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). The center position is a typical setting for club performances.

## Rear Panel



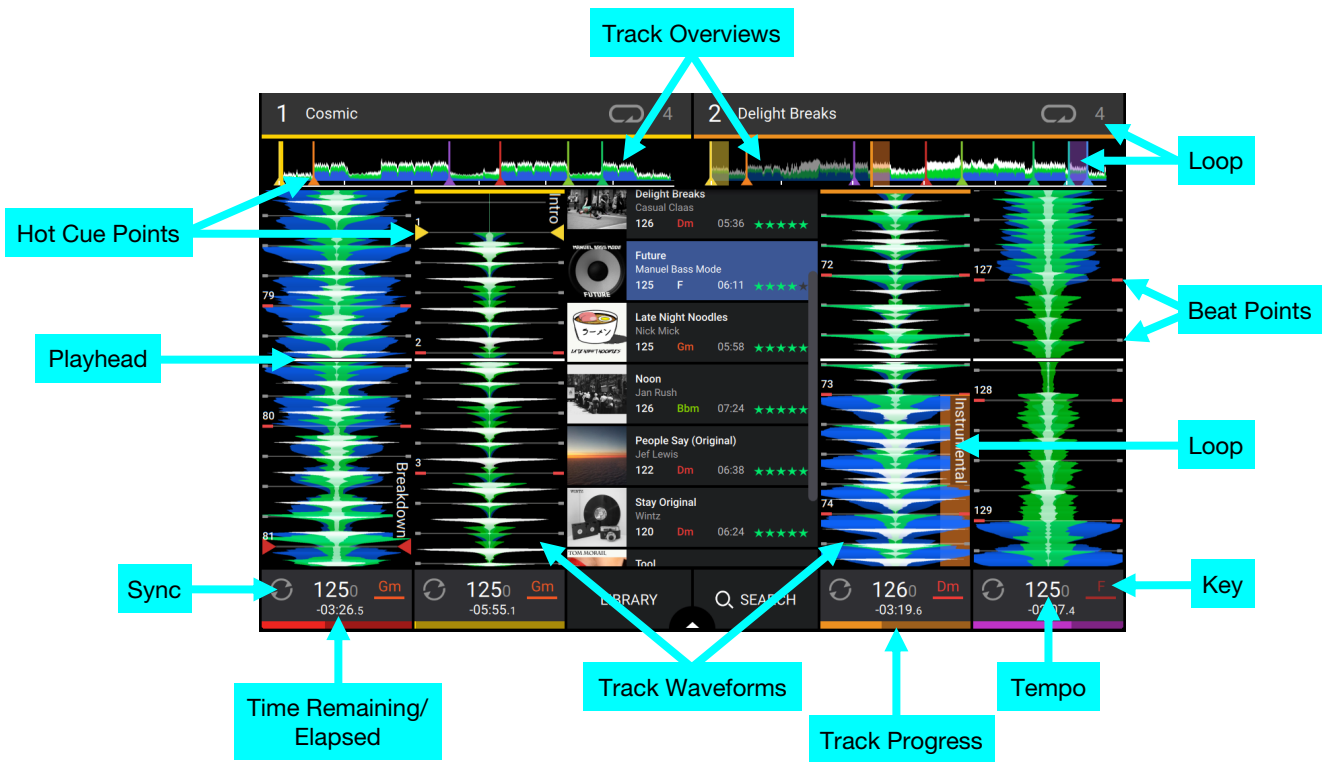
1. **Power Input:** Use the included power cable to connect this input to a power outlet.  
Prime 4 has a protection circuit to safely eject all media after an unexpected power loss to protect your data from corruption. Reconnect your power source to return to normal operation.
2. **Power Button:** Press this button to power Prime 4 on. Power on Prime 4 only **after** you have connected all of your input devices and **before** you power on your amplifiers and loudspeakers.  
To power off Prime 4, press this button and follow the prompts on the touchscreen. Power off your amplifiers and loudspeakers **before** powering off Prime 4.
3. **Rear USB Ports 3/4:** Connect standard USB drives to these USB ports. When you select one of those USB drives as a source, you can use the touchscreen to select and load tracks on your USB drives. There are also two similar USB ports on the top panel. USB Port 4 can also be used to charge a device (+5V, 1A).
4. **USB B:** Use a standard USB cable (included) to connect this USB port to an available USB port on your computer. This connection sends and receives MIDI messages to and from the computer.
5. **Link Port:** Use a standard Ethernet cable to connect this port to a computer. Prime 4 will send time, BPM, and other track data to the compatible Stagelinq lighting and video software over this connection.
6. **Zone Out (XLR, balanced):** Use standard XLR cables to connect these outputs to loudspeakers or an amplifier system. By default, the Zone Out will send the same signal as the **Master Outputs**. Alternatively, you can press the **Zone Channel Assign** button to set Deck 4 as a Zone Playlist which will be routed to these outputs. When using the Zone Channel, the level and EQ controls of Channel 4 will be bypassed; use the **Zone Level** and **Zone EQ** knobs on the top panel to control the volume level and EQ of the Zone Out signal.
7. **Booth Outputs (XLR, balanced):** Use standard XLR cables to connect these outputs to booth monitors or a booth amplifier system. Use the **Booth** knob on the top panel to control the volume level.
8. **Master Outputs (XLR, balanced):** Use standard XLR cables to connect these outputs to loudspeakers or an amplifier system. Use the **Master** knob on the top panel to control the volume level.
9. **Master Outputs (RCA, unbalanced):** Use standard RCA cables to connect these outputs to loudspeakers or an amplifier system. Use the **Master** knob on the top panel to control the volume level.
10. **Stereo/Mono:** Use this switch to set the channel configuration of the **Master Outputs**: **Stereo** (binaural audio using separate left and right channels) or **Mono** (summed monaural audio through both left and right channels).
11. **Line Inputs (RCA, unbalanced):** Use standard RCA cables to connect these line-level inputs to an external audio source.
12. **Line/Phono Inputs (RCA, unbalanced):** Use standard RCA cables to connect these line-level or phono-level inputs to an external audio source.
13. **Phono/Line 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**.
14. **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.
15. **Mic Inputs (XLR or 1/4" / 6.35 mm):** Use standard XLR or 1/4" (6.35 mm) cables (not included) to connect standard dynamic microphones to these inputs. Use the **Mic 1** and **Mic 2 Level** knobs on the top panel to control the volume level.
16. **Kensington® Lock Slot:** Use this slot to secure Prime 4 to a table or other surface.

## Operation

### Touchscreen Overview

### Performance View

### Track Overview & Waveform



**Swipe left or right** on the **track overview** to scan through the track while the track is paused.

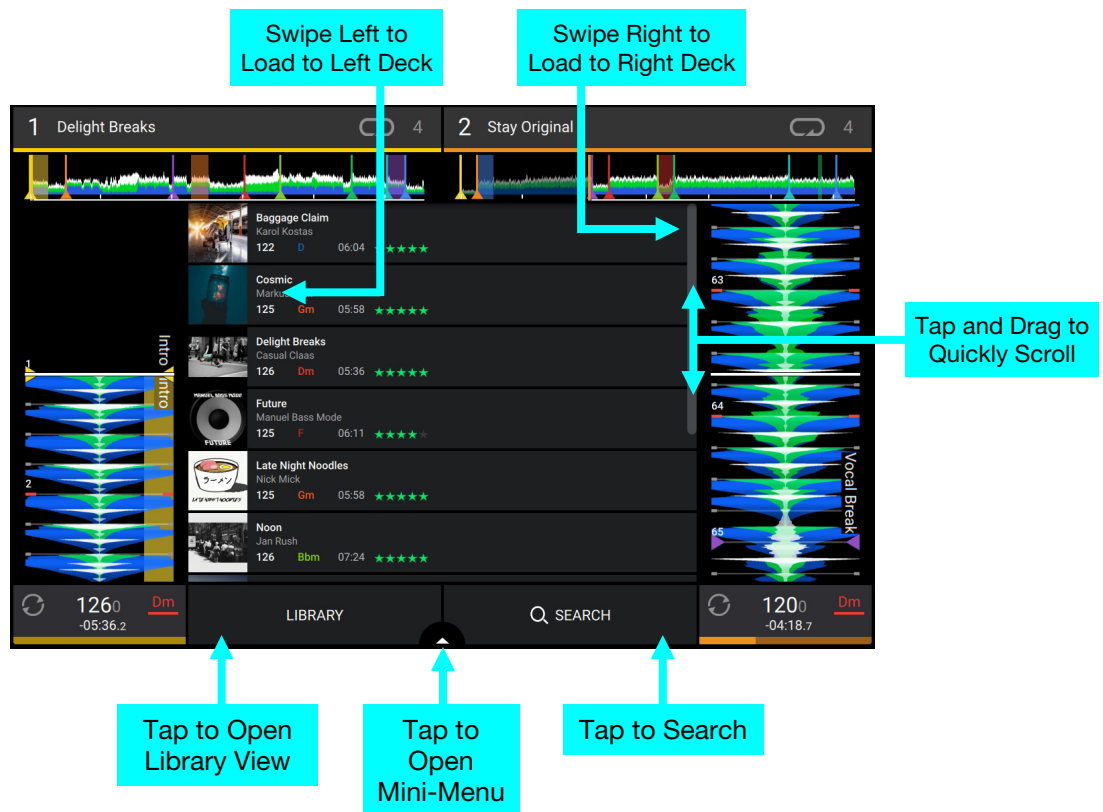
**Note:** You can use this feature during playback if Needle Lock is **off**. If Needle Lock is **on** and **Motor** is **on**, stopping the platter with your hand or palm will allow you to swipe through the track overview. See [Menu > Preferences](#) to learn about Needle Lock.

**Spread or pinch your fingers** on a **waveform** to zoom in or out of it, respectively.

**Tap the time** to switch between the elapsed time and remaining time.

**Tap the key** when Key Lock is on to change the key.

## Central Library Preview



**Swipe up** or **down** to browse tracks.

**Tap and drag the scroll bar** to quickly browse through tracks.

**Swipe right** to load a track to the right active deck.

**Swipe left** to load a track to the left active deck.

**Tap Library** to open the full Library screen. See [Library View](#) for more information.

**Tap Search** to search for tracks using the keyboard that appears in the display.

**Tap the arrow icon** between **Library** and **Search** to open the mini-menu, where you can quickly adjust the following parameters:

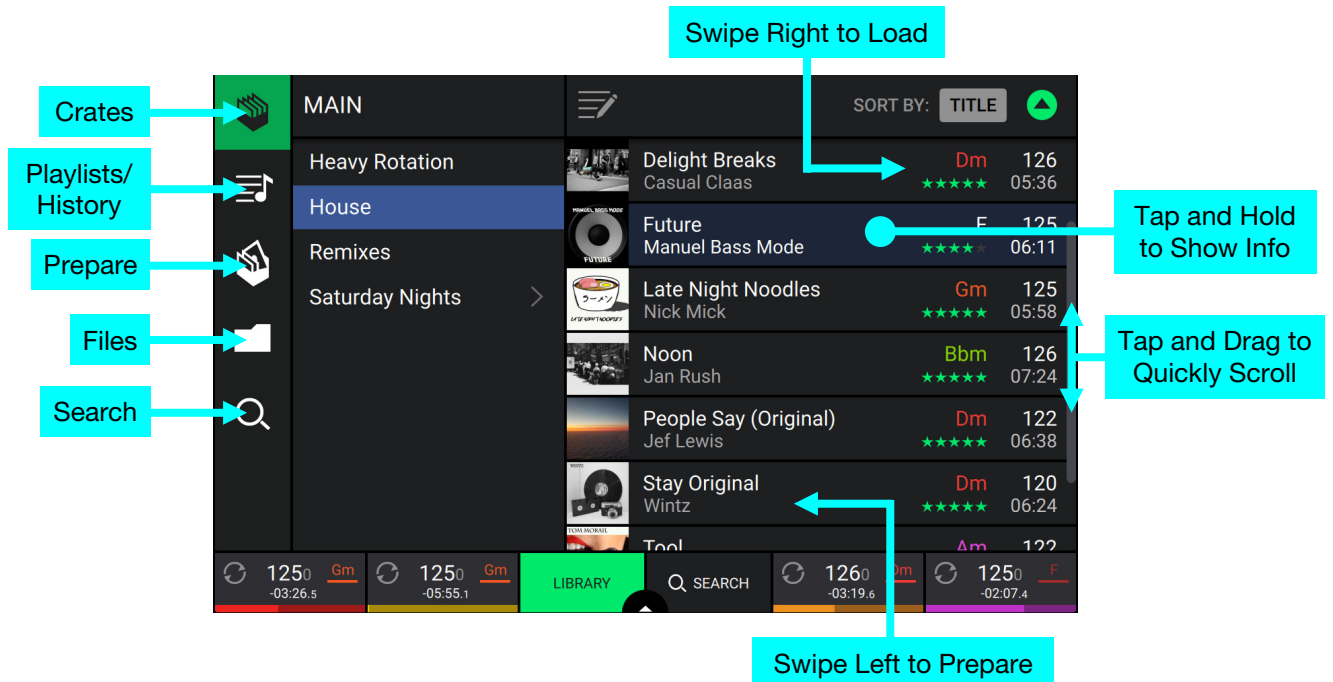
- **Quantize:** Tap this to enable or disable quantization. When enabled, time-based features like triggering cues and loops will snap to the beat-grid according to the **Cue/Loop Quantization** setting in the [Preferences](#).
- **Continue:** Tap this to enable or disable continuous playback, which will keep playing the next track when the active track has ended.
- **Stop Time:** Use this slider to adjust the stop time, or how long the track takes to stop playing after the pause button is pressed.



## Library View

Use the full Library View to view your music library and load a track to the deck. You can also search through crates and playlists, add tracks to the Prepare list, and search through your tracks using sorting and filtering features.

**Important:** Visit [denondj.com/downloads](https://denondj.com/downloads) to download the Engine Prime software.



Use the five icons on the left side to navigate while in Library View:

- **Crates:** Your crates are collections of tracks arranged however you want. You may have crates for different genres or styles, for albums from a specific decade, etc. You can use the included Engine Prime software to create crates to use here.
- **Playlists/History:** Your playlists are lists of tracks arranged in a specific order. You may have playlists for different types of clubs or events, for specific genres, etc. You can use the included Engine Prime software to create playlists to use here. This is also where you can view the playback history. If there are no playlists, only the history will be shown in this view.
- **Prepare:** You can load tracks to the Prepare list so that you can refer to them later when you want to play them during your performance (rather than searching through your entire library for the next track to play).
- **Files:** Use this option to browse the list of all files on a USB drive or SD card.
- **Search:** Use this option to search through your tracks by keyword. The search results are based on the album name, artist name, track name, key, and tempo.

**Swipe a list up or down** to browse through it (e.g., your list of crates, your list of playlists, or your list of tracks). Alternatively, press the **Back** or **Forward** buttons to select a list, and then turn the **Browse** knob.

**Tap and drag the scroll bar** to quickly browse through tracks.

**Tap an icon or item in a list** to select it (e.g., the icons for Crates, Playlists, Prepare List, Files, or Search on the left side of the Library). Alternatively, press the **Browse** knob.

**Swipe a track to the right** and tap **Load** to load it to the deck. Alternatively, press the **Browse** knob. Tap the deck number, or turn and press the **Browse** knob, to select the desired deck.

**Swipe a track to the left** to add it to the Prepare list. Alternatively, press and hold **Shift** and press the **Browse** knob. Swipe a track to the left in the Prepare list to remove it.

**Tap and hold your finger on a track** to show its information window. Tap the information window to close it.

**Tap the Search field** and use the keyboard that appears in the display to search through your tracks by keyword. The search results are based on the album name, artist name, track name, key and tempo.

**Tap Send To Zone** when **Zone Channel Assign** is active to send the currently selected file list to Deck 4 to play from the **Zone Outputs**.

## Platter Display Overview

Normally, the platter display shows the following information:

- the current position of the playhead.
- the album artwork of the current track, or your custom artwork.



The platter display temporarily shows the following information:

- the current size of an auto loop after you turn the **Auto Loop** knob.
- the current layer after you press the **Layer** button.
- the position of the secondary playhead when **Slip** is active.

## Performing

### Loading Tracks

To load a track to a deck, do any of the following:

- In the Central Library Preview, swipe the track to the left or right to load the track to the active deck on that side.
- In Library View, swipe the track to the right, and then tap Load. Next, tap the deck where you want the track loaded.
- Highlight the track using the encoder, and then press the **Load** ◀/▶ buttons to load the track to the active deck on that side.
- Highlight the track using the encoder, then press the encoder to bring up the deck selection screen. Turn the encoder to select the desired deck, and then press the encoder to load the track to that deck.

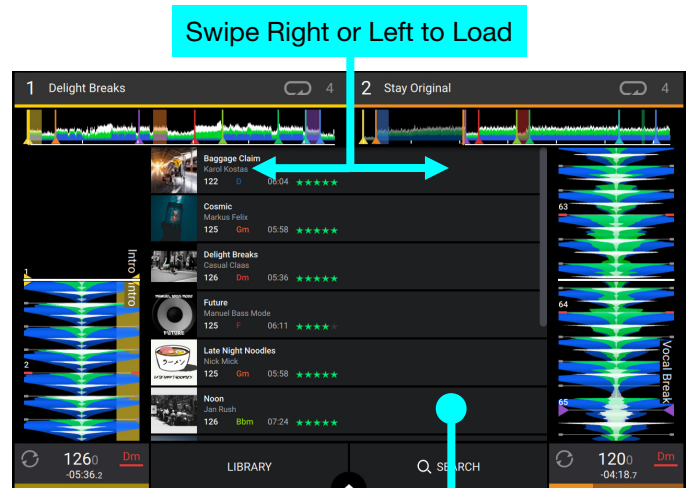
To add a track to the Prepare list, swipe the track to the left while in **Library View**. Alternatively, press and hold **Shift** and press the **Load** ◀/▶ buttons.

To show a track's information, tap and hold your finger on it.

While viewing the Prepare list:

**Swipe left** to remove the track from the Prepare list.

**Tap the clear button** in the upper-right corner of the display to remove all tracks from the Prepare list.



## Searching & Filtering Tracks

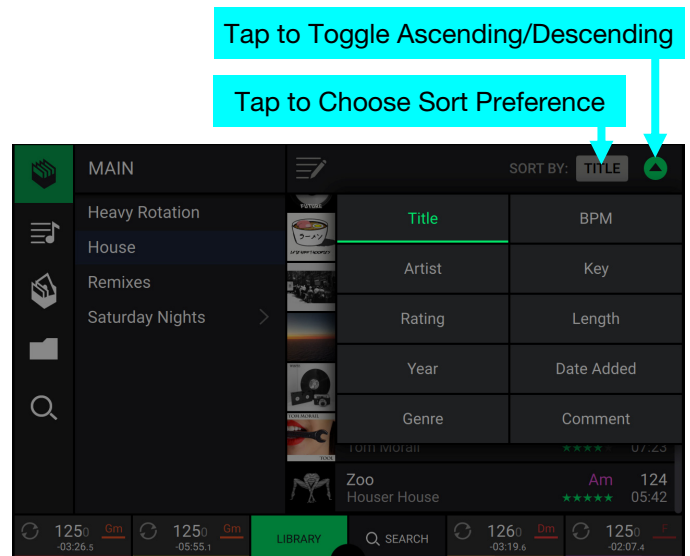
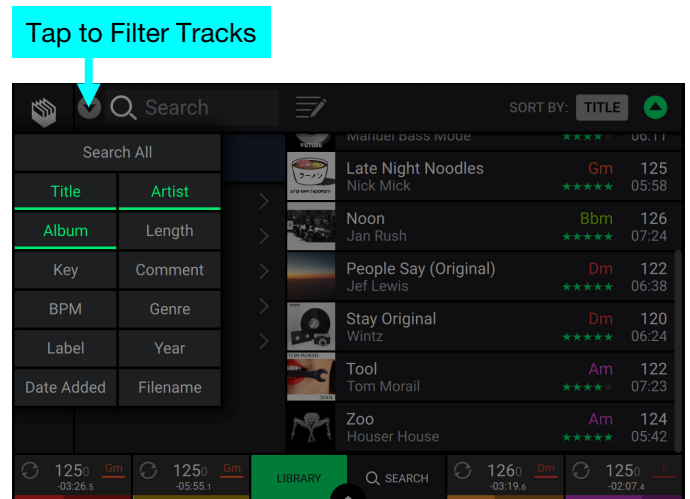
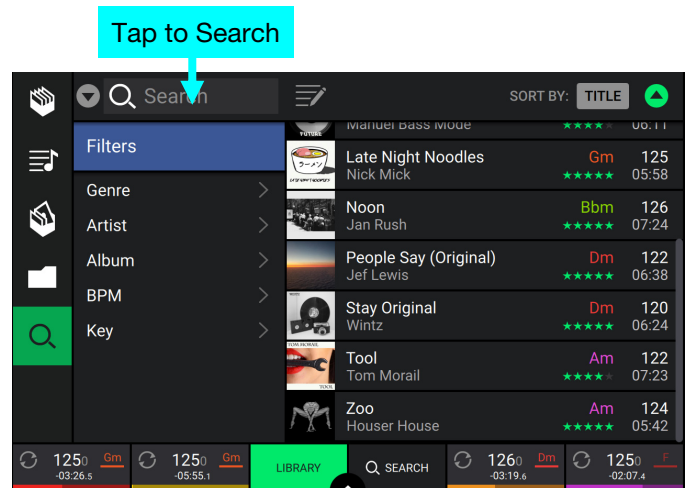
**To search**, tap the **Search** field and use the keyboard that appears in the display. The search results are based on the following criteria: album name, artist name, track name, key, and tempo.

**To hide the keyboard**, tap the **keyboard icon** in the lower-right corner of the virtual keyboard. Alternatively, tap anywhere on the screen other than the keyboard or the Search field.

**To filter your tracks**, tap **Genre**, **Artist**, **Album**, **BPM** or **Key**, and then tap one of the available options. Only tracks tagged with that genre, album, artist, key, or BPM will be shown. (By default, the key is notated using the Camelot system.) You can also use the **Search** field while tracks are filtered to refine your results.

**Note:** You can also use the Preferences to set whether you want to show tracks with the same key only or tracks with compatible keys as well as the “tolerance” of BPM filter (to include tracks with tempos within 1–15 BPM of the selection). See [Menu > Preferences](#) to learn more.

**To sort the list of results**, tap the **Sort By** icon in the upper-right corner, and then tap one of the available options. Tap the **arrow** icon next to this to toggle between ascending and descending order.



## Editing Crates and Playlists

Tap the **edit button** at the top of the display while viewing the crates or playlist screen. While editing is active, you can do any of the following:

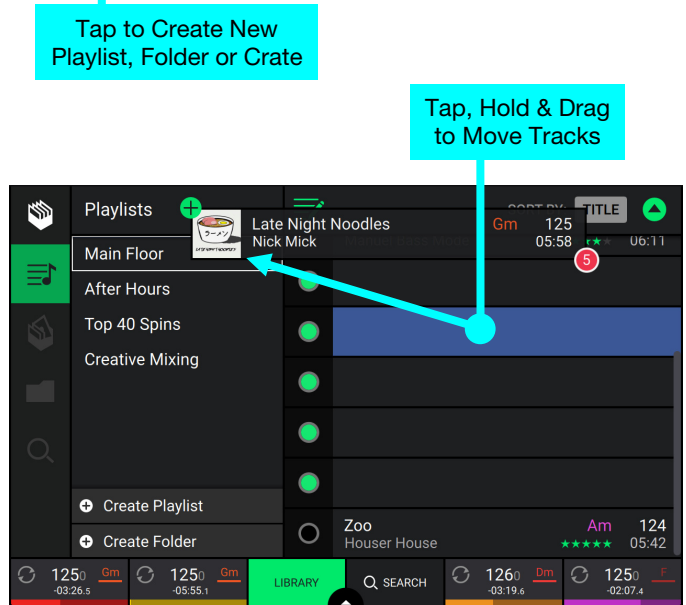
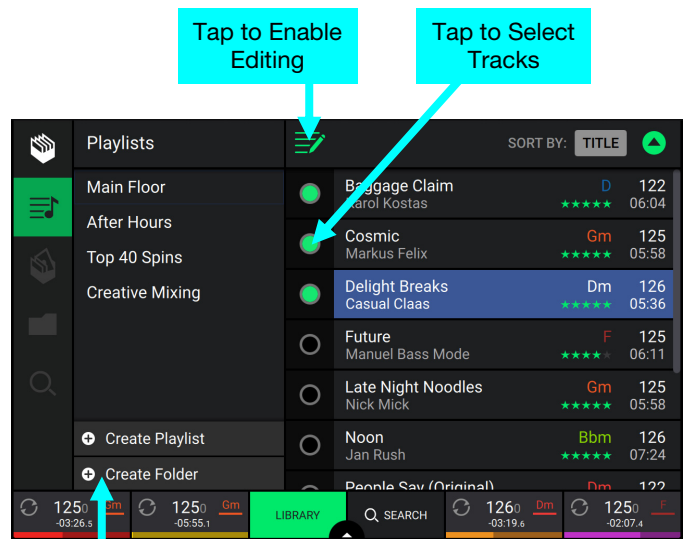
**To make a new crate,** tap + **Create Crate** in Crates view.

**To make a new playlist,** tap + **Create Playlist** in Playlist view.

**To make a new folder,** tap + **Create Folder** in Playlist view.

**To add tracks to your crate or playlist,** tap a track to select it, and the open circle will become filled. After selecting tracks, tap and hold to move the tracks. You can drag the tracks over a crate, playlist or folder and release your finger to instantly add them.

**To reorder tracks in a playlist,** tap and hold on the track name (while editing mode is still active), then move your finger up or down to change the track order. You can also reorder playlists in the same way.



## Playback & Cueing

To play or pause a track, press **Play/Pause** (▶/||).

To **scratch a track**, move the **platter** when the **Vinyl** button is set to **On** and audio is playing.

To **set the cue point**, press **Shift+Cue** at the desired location during playback.

To **return to the cue point and stop**, press **Cue**.

To **return to the cue point and keep playing**, press **Shift+Play/Pause** (▶/||).

To **cancel playback**, press and hold **Censor**.

To **return to normal playback**, release **Censor**. Normal playback will resume from where it would have been if you had never engaged the Censor feature (i.e., as if the track had been playing forward the whole time).

To **reverse playback**, press **Shift+Censor/Reverse**. The button will flash while playback is reversed.

To **return to normal playback**, press **Censor/Reverse**.

To **skip to the previous or next track**, press one of the **Track Skip** ◀/▶ buttons.

To **return to the beginning of a track**, press **Track Skip** ◀ in the middle of a track.

To **jump back or forward**, press the **Beat Jump** buttons.

To **scan quickly through the track**, press **Shift+Beat Jump** buttons. Alternatively, drag your finger left or right through the waveform overview on the display.

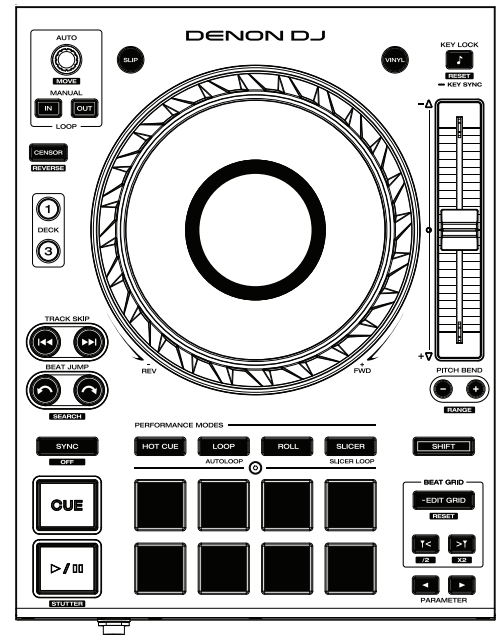
To **enable or disable Slip Mode**, press **Slip**. In Slip Mode, you can jump to cue points, use the platters, or pause the track while the track's timeline continues (the lower half of the waveform in the main display will continue moving forward). When you stop whatever action you are performing, the track will resume normal playback from where it would have been if you had never done anything (i.e., as if the track had been playing forward the whole time).

To **jump to a specific location in the track**:

- If Needle Lock is **disabled**: tap the desired location in the track overview.
- If Needle Lock is **enabled**: pause playback and then tap the desired location in the track overview. Alternatively, make sure the **motor** is **on**, then stop the platter with your hand or palm to swipe through the track overview.

See [Menu > Preferences](#) to learn about Needle Lock.

To **zoom in and out of the waveform**, place two fingers on the display and spread them apart or pinch them together.



## Looping & Beat-Jumping

To create and activate an auto loop, press the **Auto Loop** knob.

To set the auto loop length, turn the **Auto Loop** knob to select the number of beats: **1/32**, **1/16**, **1/8**, **1/4**, **1/2**, **1**, **2**, **4**, **8**, **16**, **32**, or **64**.

**Note:** You can set the default Auto Loop size in the **Preferences** menu. When a track is loaded, the Auto Loop size will be automatically reset to your preference.

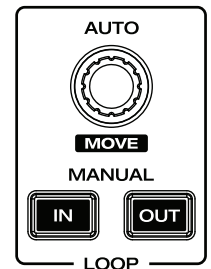
To create and activate a manual loop, press the **Manual Loop In** button to set the start point, and then press **Manual Loop Out** button to set the end point. The loop will be activated immediately, and the loop will be indicated as a shaded area in the waveform and track overview.

To deactivate a loop, press the **Auto Loop** knob. Alternatively, press the **Manual Loop Out** button.

To move the loop, press and hold **Shift** and turn the **Auto Loop** knob while the loop is activated.

To double or halve the length of a loop, turn the **Auto Loop** knob while the loop is activated.

To beat-jump through a track, press one of the **Beat Jump** buttons. Each press will skip through the track by the length of an auto loop, which you can set by turning the **Auto Loop** knob.



## Syncing & Pitch Adjustment

To activate sync, press **Sync** on the deck that you want to control the BPM, which becomes the “master.” After Sync is activated on that deck, press **Sync** on any additional decks. The tempo of each deck will immediately synchronize to match the tempo of the master deck.

The Sync state icon in the display will indicate the current status:

- **Sync Off:** Sync is deactivated.
- **Tempo Sync:** Only the tempo is synced (the BPM will match that of the master deck).
- **Beat Sync:** The tempo will be synced, and the track will be automatically be beat-matched with the track on the master deck.

To deactivate sync on a deck, press **Sync** again, or press **Shift+Sync**, depending on the setting of **Sync Button Action** in the **Preferences** menu.

To adjust the track’s pitch, move the **pitch fader**. You can do this only when the deck is not synced.

To adjust the track’s pitch momentarily, press and hold one of the **Pitch Bend +/-** buttons.

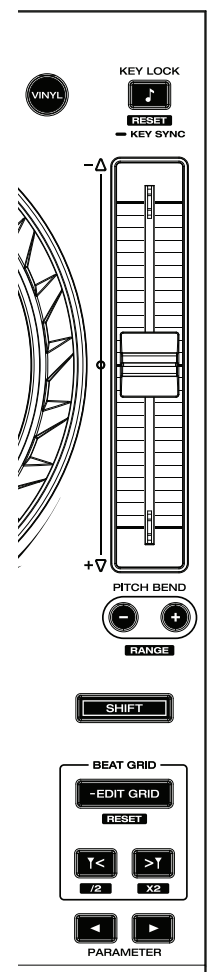
To adjust the range of the pitch fader, press and hold **Shift** and press one of the **Pitch Bend +/-** buttons to select **±4%**, **8%**, **10%**, **20%**, **50%**, or **100%**.

To lock or unlock the track’s key, press **Key Lock/Key Sync**. When Key Lock is activated, the track’s key will remain the same even if you adjust its speed.

To reset the track’s key, press **Shift+Key Lock/Key Sync**.

To activate key sync, press and hold **Key Lock/Key Sync** on the deck you would like to sync. The track’s key will sync to the key of the track on the other active deck.

**Note:** In order to activate Key Sync, playback must be enabled on at least 2 decks.



## Pad Modes

The 8 performance pads on each deck have different functions in each pad mode. The **Parameter** ◀/▶ buttons will make adjustments specific to each pad mode.

**To enter each pad mode**, press the corresponding button: **Hot Cue**, **Loop**, **Roll**, or **Slicer**.

### Hot Cue Mode

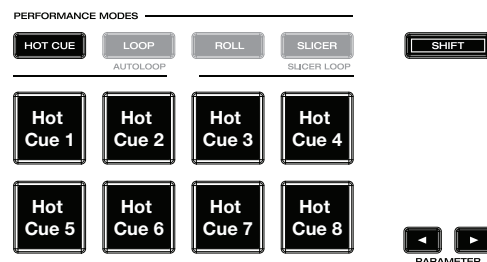
In Hot Cue Mode, you can use each pad to jump to an assigned hot cue point.

**Tip:** You can use the Engine Prime software to set, name, and assign colors to your hot cue points. The names and colors will appear in the display for reference.

**To assign a hot cue to a pad**, press an unlit pad at the desired location in the track. The pad will light up when a hot cue point is assigned.

**To jump to a hot cue point**, press the corresponding pad.

**To clear a hot cue from a pad**, press **Shift** and the desired pad. The pad will turn off when there is no hot cue point assigned to it.



### Loop Modes

In Manual Loop Mode, you can use each pad to activate an assigned loop. Pressing Loop for the first time will always enter Manual Loop Mode.

**Tip:** You can use the Engine Prime software to set and name your loops. The names will appear in the display for reference.

**To assign a loop to a pad and activate it**, press an unlit pad to create a Loop In point at the current location, and then press it again to create the Loop Out point at another location. You can also assign an auto loop to a pad by pressing an unlit pad while in the auto loop. The loop will activate immediately, and the pad will light up.

**To activate a loop**, press the corresponding pad.

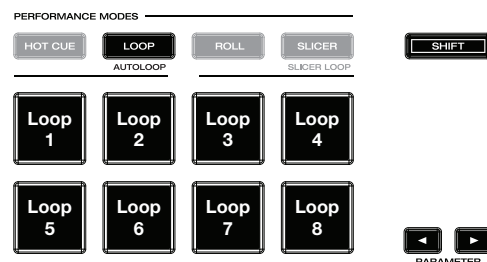
**To delete a loop**, press **Shift** and the desired pad.

In Auto Loop Mode (second press), you can use each pad to create and activate an auto loop. Pressing Loop while in Manual Loop Mode will enter Auto Loop Mode.

**To activate an auto loop**, press a pad. The display will show the length of the auto loop for each pad.

**To deactivate an auto loop**, press the pad again.

Use the **parameter buttons** to shift the loop region forward or backward by the current loop size.

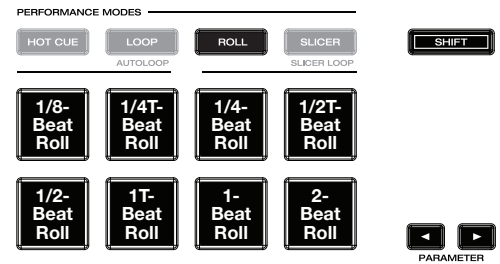


## Roll Mode

In Roll Mode, you can press and hold each pad to trigger a “loop roll” of a certain length while the track’s timeline continues (the lower half of the waveform in the display will continue moving forward). When you release the pad, the track will resume normal playback from where it would have been if you had never done anything (i.e., as if the track had been playing forward the whole time).

**To trigger a roll**, press the corresponding pad. Pads with triplet-based loop rolls are indicated are lit with a different color.

Use the **parameter buttons** to shift the loop region forward or backward by the current loop size.



(T denotes a triplet-based time division)

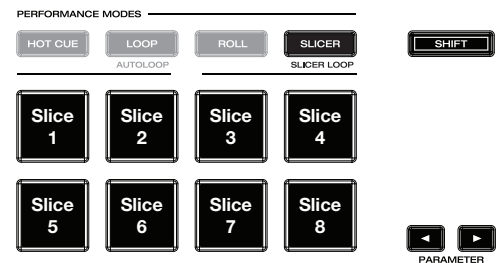
## Slicer Mode

In Slicer Mode, the 8 pads represent 8 sequential beats—“slices”—in the beatgrid. When you press **Slicer**, you automatically activate an 8-beat loop. The currently playing slice is represented by the currently lit pad; the light will “move through the pads” as it progresses through the 8-slice phrase. You can press a pad to play that slice. When you release the pad, the track will resume normal playback from where it would have been if you had never pressed it (i.e., as if the track had been playing forward the whole time).

**To play a slice**, press the corresponding pad.

Use the **parameter buttons** to change the length of the repeats. Hold **Shift** and use the **parameter buttons** to change the length of the slices.

In Slicer Loop Mode (second press), the eight pads represent eight sequential beats—“slices”—in the beatgrid. The currently playing slice is represented by the currently lit pad; the light will “move through the pads” as it progresses through the eight-slice phrase, which will loop (this is the difference between this mode and Slicer Mode). You can press a pad to play that slice. When you release the pad, the track will resume normal playback from where it would have been in the loop if you had never pressed it (i.e., as if the track had been playing forward the whole time).

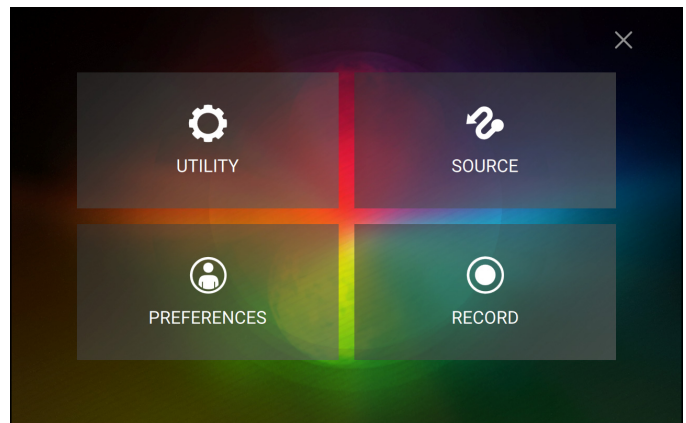




## Menu

Press and hold the **View** button to open the Menu. Here, you can access the following pages. Click the links below to jump to that part of the guide:

- **Utility** – This screen is used to edit the settings of the Prime 4 hardware.
- **Preferences** – This screen is used to edit your performance preferences.
- **Source** – This screen is used for selecting your source media device.
- **Record** – This screen is used for recording and saving your performances.



## Utility

### Device Settings

- **Deck 3/4:** This determines whether this Prime 4 will use both deck layers (**On**) or just one (**Off**).
- **Screen Brightness:** This setting determines the brightness of the main display: **Low**, **Mid**, **High**, or **Max**.

### Mixer Settings

- **Mic Talkover Level:** This setting determines the amount of reduction to the program audio level when talkover is active, from **-40** to **-20 dB**.
- **Mic Talkover Resume:** This setting determines how quickly program audio returns to the set level when talkover is inactive, either **Normal** or **Fast**.
- **Mic 1 Attenuation:** This setting determines the amount of additional attenuation for the **Microphone 1 Input**, from **-15** to **0 dB**.
- **Mic 2 Attenuation:** This setting determines the amount of additional attenuation for the **Microphone 2 Input**, from **-15** to **0 dB**.
- **Send Mic to Booth:** This setting determines whether the microphone signal is sent to the booth outputs (**On**) or not (**Off**).
- **Send Main Mix to Zone Out:** This setting determines whether the Main Mix will also be sent out of the **Zone Out** (**On**) or not (**Off**).
- **Master Limiter:** This setting determines the maximum output level of the master mix. Select **Off** to disable the limiter, or set the maximum output level from **18** to **0 dB**.
- **EQ Type:** This setting determines the type of equalization for the **Channel EQ** knobs. Select **Isolate** for EQ bands with infinite cut for full band "kills," or select **Norm** for EQ bands with limited cut.
- **ISO EQ High Xover:** When EQ Type is set to Isolate, this setting determines the crossover frequency between the Mid and High EQ bands, from **1000** to **8000 Hz**.
- **ISO EQ Low Xover:** When EQ Type is set to Isolate, this setting determines the crossover frequency between the Low and Mid EQ bands, from **100** to **800 Hz**.
- **Filter Resonance:** This setting determines the amount of resonance of the filter, from **0** to **15**.
- **Filter Extreme Type:** This setting determines the effect of the Sweep Filters at the extreme low and high ends. Select **Kill** for the filter extremes to end in silence, or select **Bleed** to allow the extreme end of the filter to play.
- **Noise Sweep Volume:** This setting determines the level of the Noise Sweep effect in the mix when active, from **-20** to **15 dB**.
- **Headphone Gain:** This setting determines the amount of gain for the **Headphones** outputs, from **-10** to **10 dB**.
- **Cue Solo Mode:** This setting determines how many channels can be sent to the cue mix. Set to **On** to have only one channel at a time in the cue mix, or set to **Off** to cue multiple channels at a time.

### Device Info

- **Model:** This is the product name.
- **Firmware Version:** This is the current version of the unit's Engine Prime operating system. Tap **Check for Updates** to search for firmware updates when connected to the internet.
- **Prime4 Mixer:** This is the current version of the Prime 4 mixer software.
- **Prime4 Controller:** This is the current version of the Prime 4 controller software.
- **Prime4 Left Display:** This is the current version of the Prime 4 left display software.
- **Prime4 Right Display:** This is the current version of the Prime 4 right display software.
- **Reset all setting to default:** Press **Reset** to restore the default factory settings for your device.

### Update

Use this option to restart Prime 4 in Update Mode, which enables you to update its firmware. Follow the firmware update instructions included with the firmware update package you downloaded.

### Legal Info

Press this button to view legal information related to Prime 4.

## Preferences

Press the **Save To My Drive** button to save your settings to a connected drive. User profiles can be loaded when a media device with an Engine Prime profile is connected to Prime 4.

### Playback

- **Track Start Position:** This setting determines where the beginning of a track is after it loads. Select the actual start of the file (**Track Start**) or the automatically detected beginning of an audio signal (**Cue Position**).
- **Default Speed Range:** This setting determines the range of the **pitch fader**. Select **±4%**, **8%**, **10%**, **20%** or **50%**.
- **Sync Mode:** This setting determines the degree of synchronization applied when you press the Sync button on Prime 4:
  - **Bar:** The tempo will be synced, and the track will be automatically bar-matched with the track on the master deck (the downbeats of each bar will be aligned).
  - **Beat:** The tempo will be synced, and the track will automatically beat-matched with the track on the master deck.
  - **Tempo:** Only the tempo will be synced (the BPM will match that of the master deck).
- **Sync Button Action:** This setting determines how the **Sync** button will act when pressed.
  - **Toggle:** This mode allows you to toggle sync on and off without having to hold **Shift**.
  - **Shift Disable:** This mode requires **Shift** to be held in order to turn off sync.
- **Pitch Control Type:** This setting determines the primary function of the Pitch Bend buttons. Select **Pitch Bend** to keep the primary function as momentarily reducing or increasing the pitch, or select **Range** to set the primary function to adjusting the range of the pitch fader. The function not used as the primary will still be available by holding **Shift** and using the **Pitch Bend** buttons.

### Cues/Loops

- **Cue/Loop Quantization:** This setting determines the degree of quantization for time-based features. Select **1/8** beat, **1/4** beat, **1/2** beat, **1** beat or **4** beats.
- **Paused Hot Cue Behavior:** This setting determines how pads will play their hot cue points. When set to **Momentary**, playback will start from a hot cue point when you press and hold its pad—release the pad to return to the hot cue point. When set to **Trigger**, playback will start from a hot cue point (and continue) when you press and release its pad.
- **Default Loop Size:** This setting determines the default size of an auto loop when you load a new track to the deck: **1**, **2**, **4**, **8** or **16** beats.
- **Smart Loops:** This setting determines whether or not a manual loop will be automatically expanded or reduced to a conventional length (e.g., 2 beats, 4 beats, 8 beats, etc.) when you set it. Select **On** or **Off**. This setting works independently of the quantization setting.
- **Move Cue To Loop In:** This setting determines whether the song's **Cue Point** will automatically be moved to the start of a loop (**On**), or remain at its current point (**Off**).

## Display

- **Track Title:** This setting determines whether tracks titles are shown as the track's **Filename** or its embedded **Metadata** (tags).
- **Time Format:** This setting determines whether or not pitch adjustment affects how the track time is displayed. When set to **Static**, the track's time corresponds to locations in the track as usual; adjusting the pitch does not affect it. When set to **Dynamic**, the track's time will automatically adjust to account for changes in pitch. For instance, if you set the pitch fader to **-8%**, the track time will increase so it is 8% longer.
- **Track End Warning:** This setting determines how long before the end of a track Prime 4 will warn you that it is nearing the end. If the track is on the currently selected deck, the **platter** ring and **track overview** will flash. If the track is on the opposite deck, the **Deck** button will flash.
- **On Air Mode:** This setting changes the platter ring illumination when the channel fader on the Prime 4 mixer is up or down, indicating an active or "on air" deck. When this setting is **On**, raising the channel fader will change the platter color from **white** to the selected color. When this setting is **Off**, the user-selected color will always be shown regardless of the channel fader position.

## Safety

- **Lock Playing Deck:** This setting determines whether or not you will be able to load a track to the deck as it is playing. Select **On** or **Off**. When this setting is on, the deck must be paused in order to load a track to it.
- **Needle Lock:** This setting determines whether or not you can tap the **track overview** in the display to jump to that location in the track during playback. Select **On** or **Off**. You can use the track overview while playback is stopped regardless of this setting.
- **Pad Lock:** This setting determines whether the pads and pad mode buttons are always enabled (**Off**) or disabled (**On**). When disabled, the pads and pad mode buttons will not be lit.

## Library

- **Key Notation:** This setting determines how the track key is notated in the display. You can view the key as all **Sharps**, all **Flats**, **Open Key**, or **Camelot**.
- **Key Filter:** This setting determines whether the **Key** filter shows tracks with the same key only (**Match**) or tracks with compatible keys (**Compatible**).
- **BPM Range:** This setting determines the lowest- and highest-possible BPM values that will be used when tracks are analyzed: **58–115**, **68–135**, **78–155**, or **88–175** BPM.
- **BPM Filter Tolerance:** This setting determines the "tolerance" of the **BPM** filter so you can include tracks with tempos that are within a small range of the selected tempo. Select **±0**, **1**, **2**, **3**, **5**, **10**, or **15**.

## Deck Colors

To change the deck ring color, tap the color box under the name of the deck, and then tap the color to select.

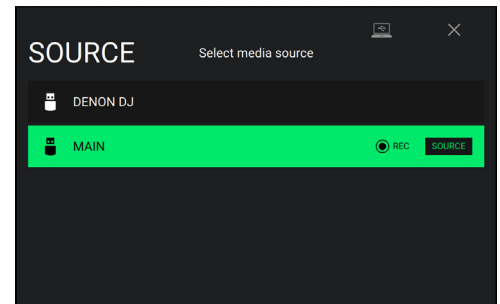
## Source

The Source menu allows you to select a connected media device for use with Prime 4. All connected media sources will be shown on the display.

**Tap the device name** to select it as your media source. The currently selected source device, if any, will show **Source** next to its name. The currently select recording device, if any, will show **Rec** next to its name.

**Tap the computer icon** at the top of the display to switch Prime 4 to controller mode. In controller mode, you can use Prime 4 to send and receive MIDI messages to and from your computer.

**Tap the X** to exit the Source menu.



## Record

Select the media device destination that you will use to save your recording. The currently selected source device will show **Source** next to its name. Once you have selected the recording device, you can begin recording your session.

**Tap Start** to begin recording. The timer on the touchscreen will show the total length of time recorded.

**Tap Pause** to pause recording.

**Tap Resume** to resume recording when paused. Prime 4 will continue recording your session from where you pressed pause.

**Tap Stop** to stop recording. Once recording is stopped, you will have the option of saving the file to your device.

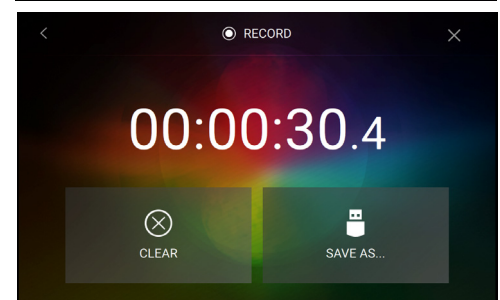
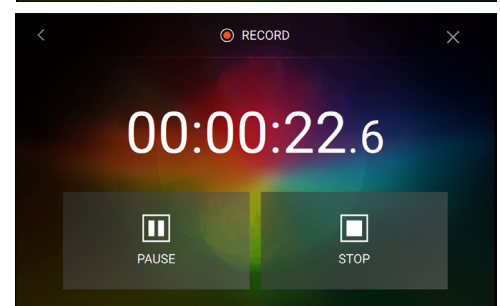
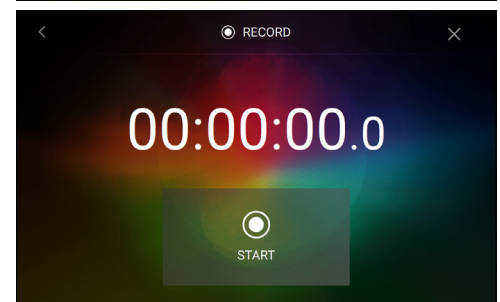
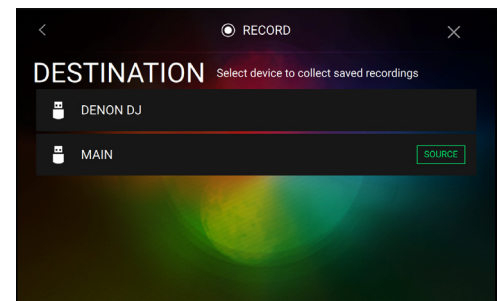
**Tap Clear** to clear the recording. A warning screen will be shown before the file is deleted. Tap **Yes** to continue, or **No** to return to the previous page to save the recording.

**Tap Save As** to save it to your drive. A keyboard will appear where you can title your file. Tap **Done** to finish and save your file, or tap **Cancel** to return to the previous page. A success message will be shown on the display when the operation is complete. Tap **OK** to continue, or wait a few seconds and you will be returned to the Record menu.

Recorded files will be saved in a folder called **Sessions** on your media device. You can access these recordings from your Prime 4 under the **Files** section of the **Library**.

**Tap the back arrow (<)** to move back a page or return to the previous page.

**Tap the X** to exit the Record menu.



## Appendix

### SATA Drive Installation

To create more internal storage space on your Prime 4 hardware, you can purchase a **SATA** (Serial ATA) drive and install it yourself, but read this chapter first.

Your Prime 4 can support nearly any standard 2.5" SATA drive on the market—either a solid-state drive (SSD) or hard-disk drive (HDD). Make sure it uses a **2.5"** (63.5 mm) form factor and uses (or can use) the **exFAT** or **FAT32** (recommended) file systems.

**Note:** Alternatively, you could install an **mSATA** (mini-SATA) drive, but make sure you also purchase an adapter that enables it to fit into a typical 2.5" SATA interface.

1. Make sure your Prime 4 hardware is powered **off**.
2. Locate the **SATA drive panel** in the center of the bottom panel of your Prime 4 hardware. Use a Phillips-head screwdriver to remove the screws (don't lose them!), and remove the SATA drive panel.
3. Gently pull the **SATA connector and cable** out from inside your Prime 4 hardware. Be careful not to disturb anything inside—handle just the SATA connector and cable.
4. Connect your **SATA drive** to the **SATA connector**. Make sure the connection is secure.
5. Use four **3x5 mm mounting screws** (included with Prime 4 hardware or with your SATA drive) to secure the SATA drive to the SATA drive panel. Do not overtighten the screws, but make sure the drive is secure and does not shake.
6. Place the SATA drive panel back onto the bottom panel of your Prime 4 hardware, and use the original screws to secure it in place.

You can now access this drive while using your Prime 4 hardware!

## FX Parameters

Reverb	Parameter	Value Range
This effect adds reverberation to the original signal.	Decay	0–100
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Dry/Wet	0–100

Echo	Parameter	Value Range
This effect adds echoes of the original signal.	Feedback	0–100
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

Delay	Parameter	Value Range
This effect adds repeated instances of the original signal that decay over time.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

Hall Echo	Parameter	Value Range
This effect adds reverberated echoes of the original signal.	Decay	0–100
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

Ping Pong	Parameter	Value Range
This is a stereo delay effect where the rate of delay is different between the left and right channels.	Pan	0–100 (50 = center)
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

Auto Gate	Parameter	Value Range
This effect applies level reduction to the original signal at a regular rate.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

<b>Flanger</b>	<b>Parameter</b>	<b>Value Range</b>
This effect adds a slightly delayed copy of the original signal to create a comb-filter effect (often referred to as resembling a jet plane engine).	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

<b>Filter LFO</b>	<b>Parameter</b>	<b>Value Range</b>
This effect varies the cutoff frequency at a regular rate.	Resonance	0–100
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

<b>Phaser</b>	<b>Parameter</b>	<b>Value Range</b>
This effect adds a copy of the original signal with its phase shifted slightly to create a subtle, modulatory effect.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

<b>Bit Crush</b>	<b>Parameter</b>	<b>Value Range</b>
This effect applies bit reduction to the original signal for a lo-fi, down-sampled effect.	AVG	0–100
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Bits	8, 16, 32
	Dry/Wet	0–100

<b>Roll</b>	<b>Parameter</b>	<b>Value Range</b>
This effect samples the current audio signal and repeats it at a regular rate based on the current time division.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

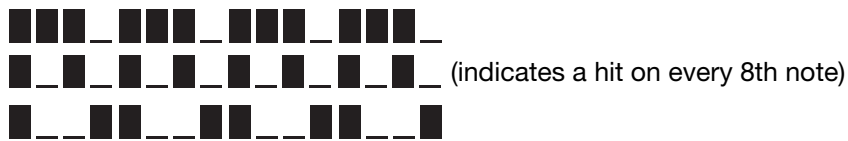
<b>Rev. Roll</b>	<b>Parameter</b>	<b>Value Range</b>
This effect (reverse roll) samples the current audio signal and repeats it backward at a regular rate based on the current time division.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100



Beat Break	Parameter	Value Range
This effect samples the 4 beats of each bar of the original signal and replays them (within the same bar) according to a preset pattern, creating a “stuttering,” “breakbeat” effect.	Pattern	See below
	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

**To select a pattern to use**, turn the **FX Parameter** knob to select one of 10 patterns, as shown in the second display. The 16 blocks (■) and/or lines (—) below it indicate the rhythm of the current pattern similarly to a drum machine’s step sequencer: a block represents a “hit”/”strike” and a line represents a rest.

**Examples:**



Scratch	Parameter	Value Range
This effect alternates between normal and reverse playback of each beat, creating a vinyl-scratching effect.	Frequency	<60 Hz – <18.2 kHz, All Bands, >60 Hz – >18.2 kHz
	Beats	1/32, 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 4, 8
	Dry/Wet	0–100

## Technical Specifications

<b>Digital Audio</b>	<b>Bit Depth</b>	24-bit
	<b>Sampling Rate</b>	44.1 kHz
<b>Supported Media</b>	<b>Type</b>	SD/SDHC/SDXC card, USB mass-storage devices (flash memory, 2.5" internal SATA, external HDD)
	<b>File Systems</b>	exFAT, FAT32 (recommended)
	<b>Audio File Formats</b>	AAC/M4A, AIF/AIFF (44.1–192 kHz, 16–32 bit), ALAC, FLAC, MP3 (32–320 kbps), MP4, Ogg Vorbis, WAV (44.1–192 kHz, 16–32 bit)
<b>Frequency Response</b>		20 Hz – 20 kHz ( $\pm 1$ dB)
<b>Dynamic Range</b>		> 117 dB (A-weighted)
<b>Signal-to-Noise Ratio</b>		> 93 dB (A-weighted)
<b>Headroom</b>	<b>Line Input</b>	> 15 dB
	<b>Mic Input</b>	> 20 dB
	<b>Outputs</b>	> 20 dB
<b>Channel Separation</b>		< -90 dB (1 kHz, unity)
<b>T.H.D.</b>	<b>Line/Phono</b>	< 0.01% (1 kHz, unity)
	<b>Microphone</b>	< 0.02% (1 kHz, unity)
<b>Analog Input</b>	<b>Microphone</b>	-40 dBu (unity) -60 dBu (minimum)
	<b>Line</b>	+15 dBV (minimum) 0 dBV (maximum)
<b>Analog Output</b>	<b>Master, Balanced</b>	+24 dBu (maximum) +4 dBu (unity)
	<b>Master, Unbalanced</b>	+20 dBu (maximum) 0 dBu (unity)
	<b>Zone, Balanced</b>	+24 dBu (maximum) +4 dBu (unity)
	<b>Booth</b>	+24 dBu (maximum) +4 dBu (unity)
	<b>Headphone Output</b>	< 150 mW @ 40 $\Omega$

<b>Connections</b>	<b>Audio Outputs</b>	2 XLR outputs (master left/right, balanced) 1 RCA output pair (master left/right, unbalanced) 2 XLR outputs (booth left/right, balanced) 2 XLR outputs (zone left/right, balanced) 1 1/4" (6.35 mm) stereo output (headphones) 1 1/8" (3.5 mm) stereo output (headphones)
	<b>Audio Inputs</b>	2 RCA input pairs (line-level, unbalanced) 2 RCA input pairs (phono- or line-level, unbalanced) 2 XLR+1/4" (6.35 mm) input
	<b>Other</b>	4 USB ports (for USB drives. Port 4 with 5 V, 1 A) 1 USB port (to computer) 1 Ethernet port 1 IEC power cable input
<b>Displays</b>	<b>Main</b>	Full color LED-backlit display with touch interface 10.1" / 257 mm (diagonal) 8.5" x 5.5" / 216 x 139 mm (width x height)
	<b>Jog Wheel</b>	Full-color LED-backlit display 2.2" / 56 mm (diagonal)
	<b>FX</b>	Black & white OLED display 128 pixels wide x 32 pixels high
<b>Power</b>	<b>Connection</b>	IEC
	<b>Voltage</b>	100–240 VAC, 50/60 Hz
	<b>Consumption</b>	43W~45W (with smartphone charging from USB4 port) 38W~39W (without smartphone charging)
<b>Dimensions</b> (width x depth x height)	28.68" x 19.56" x 4.08" 728.47 x 496.82 x 103.63 mm	
<b>Weight</b>	21.34 lb. 9.7 kg	

Specifications are subject to change without notice.

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