VirtualDJ DJC Mk4

CONTENTS

ENGLISH

FRANÇAIS

DEUTSCH

NEDERLANDS

ITALIANO

ESPAÑOL

VirtualDJ DJC Mk4

INTRODUCTION

VirtualDJ DJC Mk4 is a dedicated version of VirtualDJ, developed by Atomix Productions, tailored for Hercules DJ Console Mk4. Atomix Productions and its suppliers retain all intellectual property rights to the software.

Welcome to VirtualDJ DJC Mk4

This powerful DJ mixing software is adapted to your Hercules DJ Console Mk4, offering instant access to key DJing functions and deep integration of the software with the hardware in the Windows XP®, Windows Vista®, Windows 7™ and Mac OS® environments.

This dedicated version of VirtualDJ requires Hercules DJ Console Mk4 to be installed and connected to the computer's USB port (or to a hub connected to the computer's USB port); so, before running VirtualDJ DJC Mk4, Hercules DJ Console Mk4 must be installed and connected to your computer's USB port (or connected to the computer via a USB hub).

In Windows XP, Vista and 7: if you see the Hercules DJ Console Series icon in your taskbar with no red cross, then DJ Console Mk4 is connected and detected.

If you see the DJ Console Mk4 icon in your taskbar with a red cross, your DJ Console Mk4 is not properly detected on any of your PC's USB ports, so running VirtualDJ DJC Mk4 Edition is not possible as long as the red cross has not disappeared.

1) SYSTEM REQUIREMENTS

a)   PC
- Desktop/laptop PC with 1.5GHz processor or higher
- 1GB RAM
- Operating system: Microsoft Windows XP®, Vista® or 7™
- USB 2.0 or USB 1.1 powered USB port (or USB hub)
- Hercules DJ Console Mk4
- Headphones or amplified stereo speakers
- CD-ROM or DVD-ROM drive
- 1024x600 video resolution or higher, 16-bit
- Microphone, Internet connection + 100MB free hard disk space

b)   Mac
- Desktop/laptop Mac with Intel 1.5GHz processor or higher
- 1GB RAM
- Operating system: Mac OS® 10.5 (Leopard) and 10.6 (Snow Leopard)
- USB bus-powered port (or USB hub) (NB: the USB port on Mac keyboards is not powered)
- Hercules DJ Console Mk4
- Headphones or amplified stereo speakers

VirtualDJ DJC Mk4

- CD-ROM or DVD-ROM drive
- 16-bit, 1024x768 video resolution
- Microphone, Internet connection + 100MB free hard disk space

2) VIRTUALDJ DJC MK4 OVERVIEW
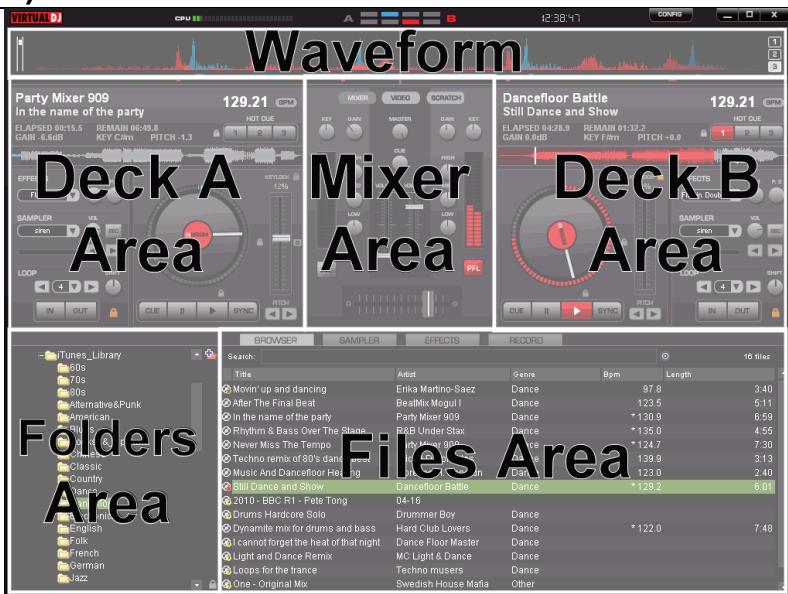
The VirtualDJ DJC Mk4 interface can be split into 5 areas:

- Waveform
- Deck A
- Mixer
- Deck B
- Browser area: folders + files areas

a)   Browser area: folders area + files area

In this area, you can browse through your computer or network drive to select the audio files you will load onto a deck and mix with. The browser area consists of 2 subsections:

- the **folders browser** on the left: use this area to select a folder, a disk or remote access location,
- the **files browser** on the right: use this area to select the music track you want to load on each deck of the player.

VirtualDJ DJC Mk4

Title	Artist	Genre	Bpm	Length
Movin' up and dancing	Erika Martino-Saez	Dance	97.8	3:40
After The Final Beat	BeatMix Mogul I	Dance	123.5	5:11
In the name of the party	Party Mixer 909	Dance	* 130.9	6:59
Rhythm & Bass Over The Stage	R&B Under Stax	Dance	* 135.0	4:55
Never Miss The Tempo	Party Mixer 909	Dance	* 124.7	7:30
Techno remix of 80's dance best	Ericho Daronzales	Dance	139.9	3:13
Music And Dancefloor Healing	Florence H. Shootun	Dance	123.0	2:40
Still Dance and Show	Dancefloor Battle	Dance	* 129.2	6:01
2010 - BBC R1 - Pete Tong	04-16			
Drums Hardcore Solo	Drummer Boy	Dance		
Dynamite mix for drums and bass	Hard Club Lovers	Dance	* 122.0	7:48
I cannot forget the heat of that night	Dance Floor Master	Dance		
Light and Dance Remix	MC Light & Dance	Dance		
Loops for the trance	Techno musers	Dance		
One - Original Mix	Swedish House Mafia	Other		

b)   Deck A
This is the virtual deck on the left. You can:
- load music files on this deck,
- move within the track,
- play the music file loaded on this deck,
- add a bookmark to a position (called a Cue point),
- change the pitch (the playback speed),
- view the BPM, pitch variation, elapsed and remaining time.

01   Music tag: Artist name on top – Song name on second line
02   Pitch slider: down = speed up / up = slow down
03   Virtual vinyl record: scratch on the virtual record with your mouse / drag and drop music onto the virtual record with your mouse

5/39 – User Manual

VirtualDJ DJC Mk4

04 Pitch bend adjustment buttons: Pitch bend left = slower, and Pitch bend right = faster

05 Time counter: elapsed time / remaining time

06 Wave form overview (vertical bar = cue point)

07 BPM counter (129.21 = 129.21 Beats Per Minute)

08 Pitch scale (click on it to change pitch scale)

09 Cue button = lets you set the cue point position 1, or return to the last selected cue point

10 Effects: click on the name to enable the function, and click on the arrow pointing downwards to select different effects

11 Pause and Play

12 Sync = synchronize the deck with the other deck

13 Loop In / Loop Out = enter loop mode

14 Smart Loop mode: when this mode is enabled (orange lock icon), clicking the Loop Out button creates a continuous loop based on the selected loop size (above the Loop Out button)

15 Sampler: control for audio samples

16 Hot Cue: set additional Cue Points

17 Smart Play mode: synchronize playback with the music on the other deck

c)   Mixer

The virtual mixer area, in the centre, lets you set:

- the volumes of both decks,
- the equalization (EQ) of both decks,
- the cross fader,
- the gain on each deck,
- which deck you are previewing.

It also includes 3 buttons: **Mixer**, **Video** and **Scratch**, to bring up 3 dedicated menus.

ENGLISH

FRANÇAIS

DEUTSCH

NEDERLANDS

ITALIANO

ESPAÑOL
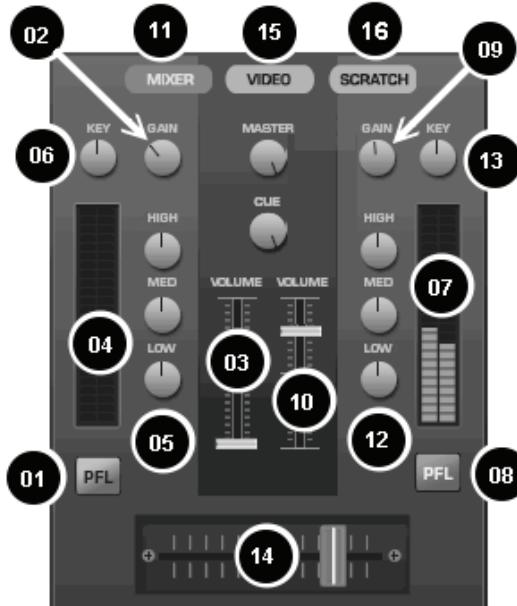
01   PFL = Preview Deck A. Click the PFL button: it turns blue, so you preview deck A, and in the waveform display, the deck A wave (in blue) comes to the foreground, while the deck B wave (in red) goes to the background
02   Gain for deck A: rotary knob setting the gain on deck A
03   Volume fader for deck A: up = louder / down = lower
04   Level VU-meter for deck A
05   EQ on deck A: 3 rotary knobs to independently set the level of bass, medium and treble on deck A
06   Key: sets the tone on deck A
07   Level VU-meter for deck B
08   PFL = Preview Deck B. Click the PFL button: it turns red, so you preview deck B, and in the waveform display, the deck B wave (in red) comes to the foreground, while the deck A wave (in blue) goes to the background
09   Gain for deck B: rotary knob setting the gain on deck B
10   Volume fader for deck B: up = louder / down = lower
11   Mixer: displays the mixer menu (default)
12   EQ on deck B: 3 rotary knobs to independently set the level of bass, medium and treble on deck B
13   Key: sets the tone on deck B
14   Cross fader
15   Video: displays the video mixer (mix video in a small window)
16   Scratch: displays a scratch mixer, with vertical waveforms.

VirtualDJ DJC Mk4

d)   Deck B

This is the virtual deck on the right. You can:
- load music files on this deck,
- move within the track,
- play the music file loaded on this deck,
- add a bookmark to a position (called a Cue point),
- change the pitch (the playback speed),
- view the BPM, pitch variation, elapsed and remaining time.

e)   Waveform area
This area shows 2 waveforms:
-    the waveform for deck A (left deck) in blue,
-    the waveform for deck B (right deck) in red.

The music track you hear on your headphones has its waveform in the foreground, while the music track on the other deck is in the background.
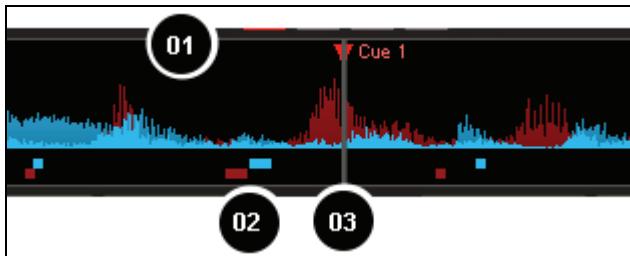
01   Waveforms of 2 audio tracks
-        blue waveform = track on deck A
-        red waveform = track on deck B
-        blue is in the foreground = you are previewing deck A
02   Beat marks: the blue rectangle shows the beat of deck A, and the red rectangle shows the beat of deck B
03   Red Cue 1: bookmark on the track played on deck B

3) FIRST USE OF VIRTUALDJ DJC MK4

a)   Serial number

The first time you run VirtualDJ DJC Mk4, you are asked to enter a serial number.

This serial number is found on the paper envelope of your installation CD. This serial number belongs to you: you cannot change it, and you must not share it with any other user of VirtualDJ DJC Mk4; otherwise, you won't be able to register on the VirtualDJ website, which will not let you access VirtualDJ service updates, plug-ins, or upgrades. Keep both the CD envelope and the installation CD in a safe place, since both the serial number and the installation CD are required if you re-install your system, or change your computer. The serial number format is xxxx-xxxx-xxxxx/.

b)   Browser area

When you run VirtualDJ DJC Mk4 for the first time, the browser area displays no music files.

VirtualDJ DJC Mk4

i) Folders area

On the left of the browser area, you can see the list of the folders and disk units on your computer: the active folder is highlighted.

You know you are in the folders area because the folder button in the centre of the DJ Console Mk4 is backlit.

Go to the folders area by pushing the button with a folder symbol 🗁.

Move within the folders area to reach the folders you want by:

- pushing the DJ Console Mk4's buttons with Up and Down arrows to change the active folder,
- expanding the active level by pushing the Folder button.
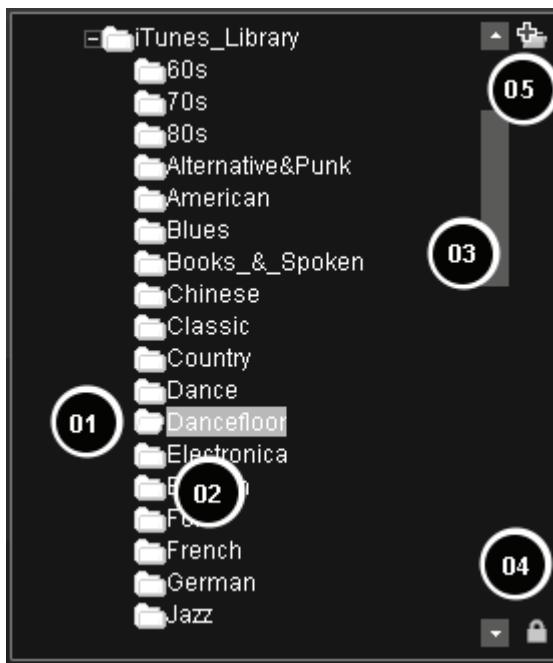
01	Active folder (virtual or real), highlighted
02	Other folders, not highlighted
03	Graphic slider to move through the list
04	Lock/unlock, to lock the Files area (if the lock is open, the folder area can expand and hide the files area).
05	Add Virtual Folder button:

You can create a Virtual Folder (which is a playlist) by clicking the button with a + and a red folder symbol 🗂, on the top right of the folders area.

ii) File browser

Once you have reached the directory where your music files are stored:

-    you can leave the folders area to reach the files area by pushing the DJ Console Mk4's button labeled Files,

-    you can move through the file browser by pushing the buttons with up or down arrows (to move to the previous or next line),

-    to move faster through the music list, keep the Up or Down button pressed and turn the DJ Console Mk4's jog wheel for the deck you want to preview: this lets you move through the list more quickly.

Once you reach the file you want to load on your virtual deck, press the Hercules DJ Console Mk4's button labeled **Load A** to load the file on the left deck, or press the Hercules DJ Console Mk4's button labeled **Load B** to load the file on the right deck.
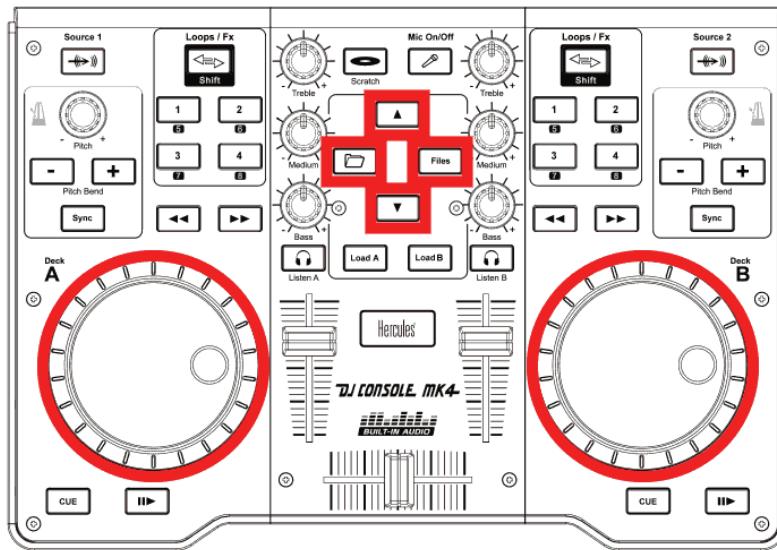
c) BPM (Beats Per Minute) rate of your music files

The BPM rate is the number of beats per minute in the music, which reflects how fast the music is:

-    a BPM rate below 85 is slow,
-   a BPM rate over 130 is fast.

VirtualDJ DJC Mk4

i) **Analyze your music files' BPM rates**

The first time you display your list of music files in a DJ software application, the Beats Per Minute rate is not calculated: we strongly recommend that you analyze all of the music files you intend to mix with in advance, so that you can then read the BPM (Beats Per Minute) rate in the browsing area, to load only music tracks matching the BPM rate you need.

To analyze the music files in a directory:
- select the music file(s) in the music list and right-click with your mouse (or on Mac with no right-click on the mouse, use Ctrl + mouse click): a pop-up menu lets you select the action **Scan for BPMs** to analyze the music files.
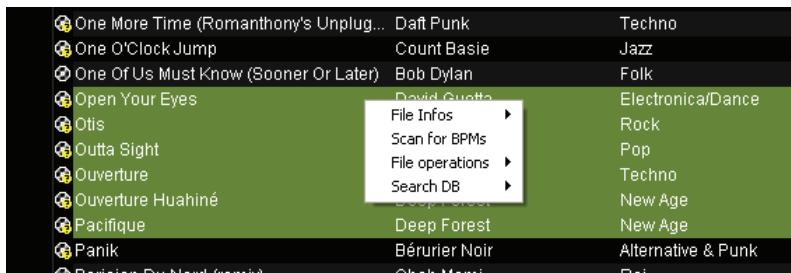
ii) **Run the BPM analysis in advance, not during a party!**

The BPM analysis takes time (1 hour for 120 music files), so starting the BPM analysis of your complete library just before a party is a very bad idea. You should therefore carry out the analysis in advance: it's easy, as you can analyze your complete hard drive and you don't need to remain in front of your computer while VirtualDJ DJC Mk4 is analyzing the music files. Please note that the BPM analysis requires a lot of processing power, so mixing while VirtualDJ DJC Mk4 is analyzing your full library is not recommended, since your computer will not respond as fast as it should.
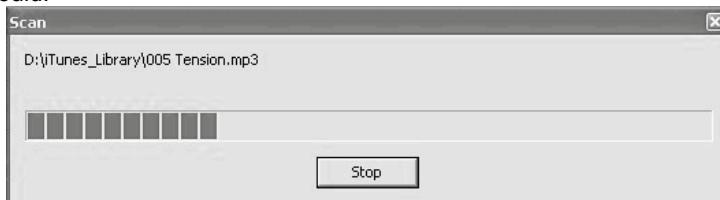
The analysis is generally accurate, but occasionally the BPM rate calculated is not correct: sometimes the BPM calculated is double or half of the actual BPM rate (the BPM analyzer may count only 1 beat out of 2 in a track, or identify an intermediary sound within a beat as the start of

another beat). If your file is not properly analyzed, you can correct it by manually entering the BPM rate.

If a music file is not analyzed, loading this file on a deck analyzes it, and you can read its BPM rate in the VirtualDJ display, to the right of the artist name.

iii) BPM rate display

The BPM rate is displayed in 2 areas:
- if you have analyzed the files, the BPM rates are listed in the browser area,
- on each deck, to the right of the artist name.

## d) Information about the music tracks

The text information inserted in each music file is called a "tag": audio files are generally tagged automatically when you import an audio CD via iTunes or Windows Media Player, or when you buy MP3 files, and the tag includes the song name, artist name, composer name, album name, music genre and the date on which the music was recorded.

Once you analyze music files in VirtualDJ, the BPM rate is added inside the tag.

i) Customizing the tag display

You can select which fields of the music tag you want to display in the music browser by right-clicking with your mouse on the music browser headlines (or Ctrl + mouse click in Mac OS, using a Mac mouse with only 1 button).

VirtualDJ DJC Mk4
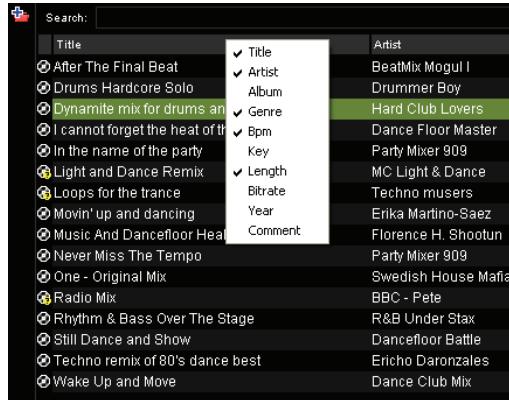
You can display the following tags: Title, Artist, Album, Genre, Bpm, Key, Length, Bitrate, Year, Comment.

ii)   Sorting the music files
You can sort your music files by each tag's data (by song name, artist name, BPM, music genre...) by clicking the headline of the relevant tag.

### iii)   Searching
You can also search for songs using the **Search** field: when you type a sequence of characters in this field, VirtualDJ DJC Mk4 will display all of the music files which include this sequence of characters in their tags in the Files area.
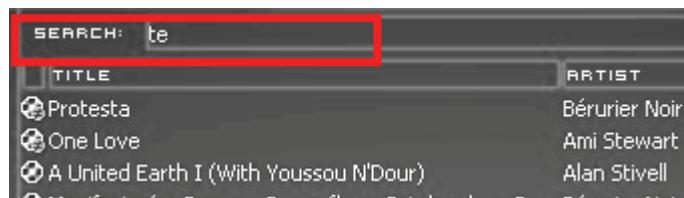
You can also define the search area by clicking the circular button located on the right side of the search field.

ENGLISH

FRANÇAIS

DEUTSCH

NEDERLANDS

ITALIANO

ESPAÑOL
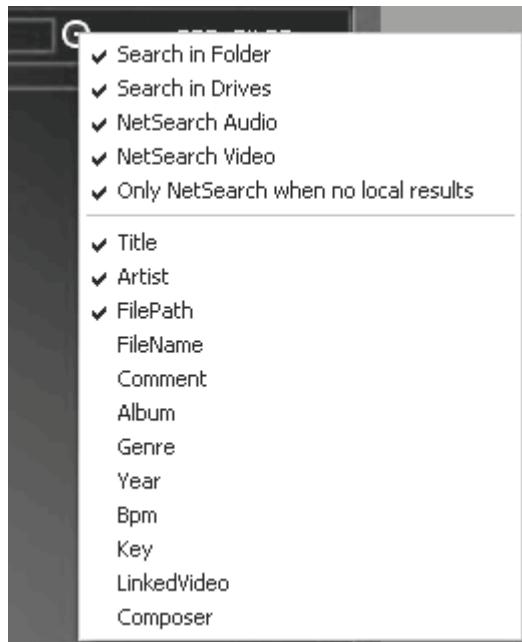
4) PLAYING AN AUDIO FILE

a)   Loading and playing an audio file

When you have selected an audio file in your music browser, you can load it:

-    on the left deck of VirtualDJ by pressing the **Load A** button on your DJ Console Mk4; or

-    on the right deck of VirtualDJ by pressing the **Load B** button on your DJ Console Mk4.

VirtualDJ DJC Mk4
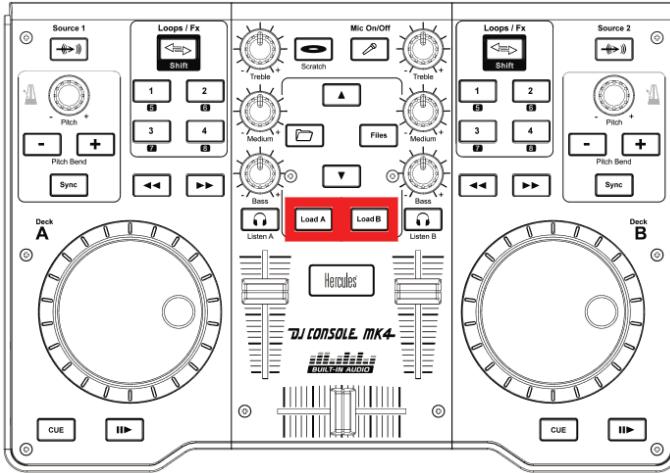
Once an audio file is loaded on a deck, you can:

- Play it: press the DJ Console Mk4's Play button on the corresponding deck,
- Move within the audio file: turn the jog wheel on the corresponding deck,
- Move faster within the audio file: press the fast forward or rewind buttons on the corresponding deck.
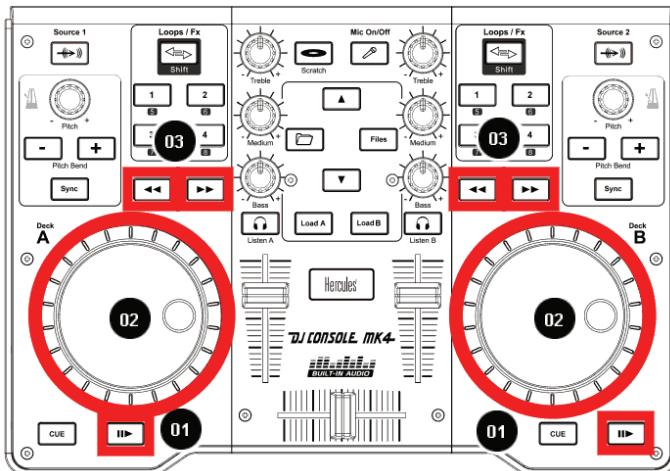
b)   Supported audio formats

i)   *File extensions*

VirtualDJ DJC Mk4 supports most digital audio formats such as MP3 (PC/Mac), AAC (PC/Mac), AIFF (Mac), WAV (PC), WMA (PC), OGG (PC) and CD-Audio.

ii)   *DRM protected files*

VirtualDJ DJC Mk4 cannot play files with DRM protection, so if you have purchased an AAC file with DRM protection, the solution to play the file in VirtualDJ DJC Mk4 is to burn an audio CD with this music file, and mix using this audio CD instead of the AAC file with DRM protection.

iii)   *Video files*

VirtualDJ also supports video files, but in VirtualDJ DJC Mk4 the playback is limited to a small window: to mix video in full screen mode, you need the VirtualDJ Pro version. You can upgrade from VirtualDJ DJC Mk4 to VirtualDJ Pro on the http://www.virtualdj.com website.

c)   Previewing a track

Previewing an audio track means:

-    playing it for the DJ's ears only,
-    while playing another track for the audience.

You usually preview a music file on your headphones while playing another track for the audience over your speakers. The music the audience can hear is called the mix.

i)   *Target*

Before playing a music file for the audience, you can preview it to:

-    select a music file: check that it fits with the ambiance and beat of the party,
-    add a cue point to the music file: the cue point is the bookmark you place in the music file to set where you want the audience to start hearing it. At a party where people are dancing, you need to set a cue point where people can hear the beat.
-    synchronize the music file with the previous track played for the audience.

ENGLISH

FRANÇAIS

DEUTSCH

NEDERLANDS

ITALIANO

ESPAÑOL

VirtualDJ DJC Mk4

ii)   Equipment

To preview a music file, you must connect your headphones to the DJ Console MK4 headphone output, on the front of the device.

iii)   Steps

To preview a music file:

-    You should preferably use low-impedance headphones (below 64 Ohms), to get a strong output level,

-    Load the music file on the deck opposite to the side where the cross fader is positioned (so that the audience cannot hear the preview),

-    Press the **Listen A** or **Listen B** button on your DJ Console Mk4 to preview deck A or Deck B, respectively,

-    Preview the music file on your headphones, by pressing the Play button.

d)   Moving within a music track

You can **move within a music track** using 3 controls:

-    Play the music track with the DJ Console Mk4's **Play buttons**. This is the simplest way: just press the Play button of the selected deck on your controller, and you can hear the track on your headphones at the position you have reached,

-    Move within the track by turning the DJ Console Mk4's **jog wheels**. This is the most precise way: turn the jog wheel backwards and forwards and you see your position moving in the waveform window,

-    Go forwards and backwards by pressing the **Fast forward** and **Rewind buttons**. This is the fastest way: you see your position within the music track in the small waveform preview placed over the virtual vinyl record image in the VirtualDJ display.
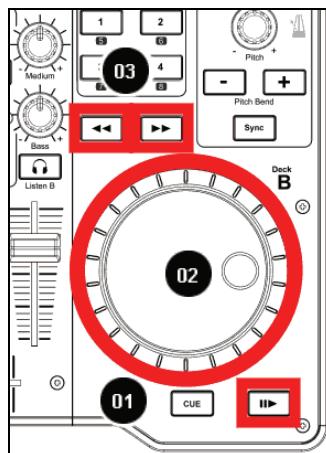
e) Setting a Cue point

A **Cue point** is a bookmark of the moment in the music file where you want to start playing the music file for your audience, to avoid the slower start of the music track if it is too slow for dancing. This bookmark is intended to start playing the music file only once its beat is strong enough for dancing, since a slow introduction of the music with no beat may interrupt the dancing rhythm.

i) Placing a Cue point

Once the music file is loaded on a deck, preview it for yourself only (on your headphones) up to the point you choose as bookmark: you can reach this point by playing the music file, by pushing the fast forward button or by turning the jog wheel. Then press the Cue button at the spot you want to place a cue point.

VirtualDJ adds:

- a marker with the label **Cue 1** in the waveform display
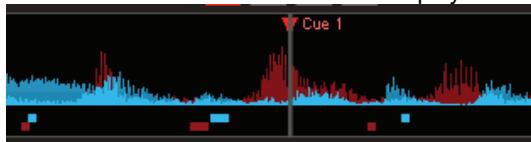
- a vertical bar with a red dot at its base in the waveform preview.
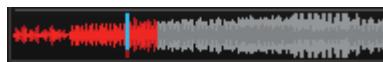
ii)   Changing the position of the Cue point

Each time you press the Cue button, VirtualDJ DJC Mk4 updates the Cue point's position.

iii)   Going to the Cue point

If the Cue point for an audio file has been defined and saved, you can go to this Cue point by pressing the Play button, and then pressing the Cue button while the track is playing. Please note that you must make sure that the track is playing before pressing the Cue button: otherwise, if the track is stopped, pressing the Cue button will place a new Cue point instead.

iv)   Deleting a Cue point

If the music is loaded with a Cue point, going to the start of the music file (with the Rewind button) and pressing the Cue button once you have reached the start of the music file deletes the previously set Cue 1 point.

5) BEAT MATCHING MUSIC FILES

The DJ's task is to provide the audience with the music they need to dance, which includes:

-    selecting music tracks well-suited to the audience,

-    maintaining a dancing rhythm with a good ambiance, and avoiding anything that may interrupt the rhythm, such as gaps in the music or a BPM change that is too abrupt,

-    **making transitions easy for the dancers** by synchronizing the next music track with the current music track wherever possible: this synchronization is called **beat matching**.

Beat matching consists of adjusting the playback speed of music track B until the moment the beats (often marked by drums or bass) of this track B play at the same time as the beats of track A, to keep the same beat during 3 steps:

1.   when playing track A,
2.   then mixing track B together with track A,
3.   and then when you stop playback of track A to keep only track B playing, to spare the dancers a change in the dancing rhythm.

If the BPM rates of 2 music tracks are very far one from the other, you may synchronize them by setting the BPM rate of the second music track at half or twice the BPM rate of the first music track, so that the beat of the second music track is played at the same time as 1 beat out of 2 of the first music track or vice versa. Typically, you can synchronize a 75 BPM music track with another track set at 75 BPM, or with a track set at 150 BPM.

Hercules DJ Console Mk4 has 4 controls for beat matching:

1.   Pitch fader,
2.   Pitch Bend buttons (Pitch Bend -/+),
3.   Sync button,
4.   Jog wheels.
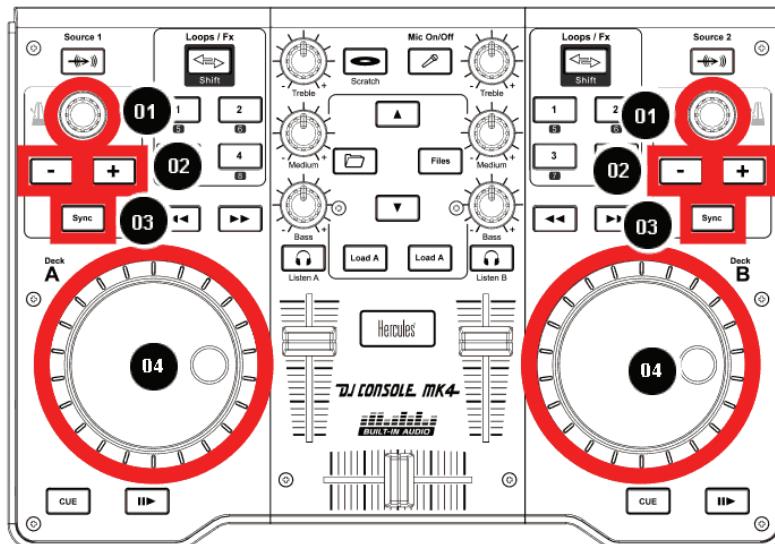
VirtualDJ DJC Mk4

VirtualDJ DJC Mk4's display includes 5 controls per deck to control the pitch:

1. The pitch fader,
2. The Pitch bend left ◄ and Pitch bend right ► buttons below the pitch fader, which gradually change the pitch, and return to the previous pitch setting once you stop pressing the buttons,
3. The Pitch reset button ▣ to the right of the pitch fader, which gradually restores the default pitch value (to a 0.0% pitch variation),
4. The SYNC button, to the right of the Pause and Play buttons,
5. The pitch scale, above the pitch fader, displays the pitch value (the % variation of pitch compared to the original speed). Double-clicking the pitch scale changes the pitch scale between 6%, 8%, 10%, 12%, 20%, 25%, 33%, 50% and 100%.

a)   Sync button on DJ Console Mk4 (= Beatmatch)

Pressing a DJ Console Mk4 **Sync button** (or clicking a VirtualDJ SYNC button) on a deck **instantly synchronizes the beat** of the music loaded on this deck **with the beat of the music file on the other deck:** this Beat matching process is instant and easy.
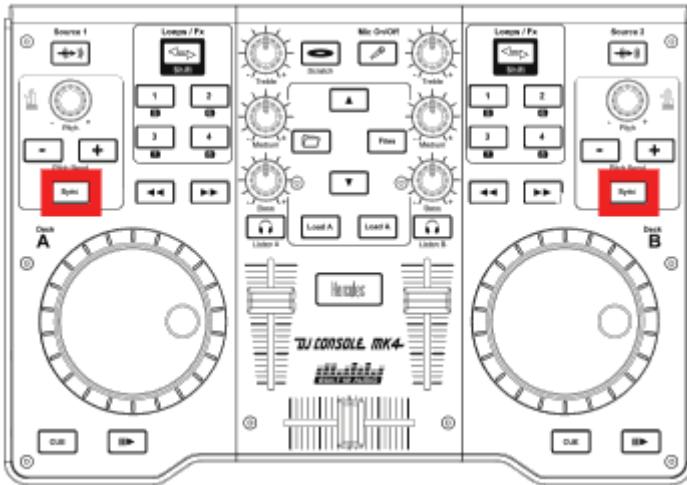
You can synchronize a music track with another using the Sync button, as long as the BPM difference between both music tracks is within the limit of the pitch scale. The pitch scale is the percentage displayed above the VirtualDJ Pitch fader when the pitch button reaches its top or bottom limits.

The pitch scale can be changed by double-clicking the percentage figure displayed above the pitch fader,

You can set a pitch scale of 6%, 8%, 10%, 12%, 20%, 25%, 33%, 50% or 100%.

Tip: if you have set a pitch scale of 33%, for example, and you want to synchronize 2 tracks with a BPM difference exceeding 33% (e.g. synchronizing a 140BPM audio track with a 100BPM audio track, which is a 40% difference), you can:

- first change the speed of the reference track, for example change the 100BPM music to 110BPM,

- and afterwards synchronize the incoming 140BPM track to fit with the new speed of the reference track, 110BPM.

b)   Pitch fader
i)   *Pitch fader*
The pitch fader slows down / speeds up playback of the music file.

On DJ Console Mk4, you manipulate the pitch fader function using the Pitch knobs (these knobs have no limits in their rotation).

- Slow down playback = turn the Pitch knob to the right
- Speed up playback = turn the Pitch knob to the left

VirtualDJ DJC Mk4
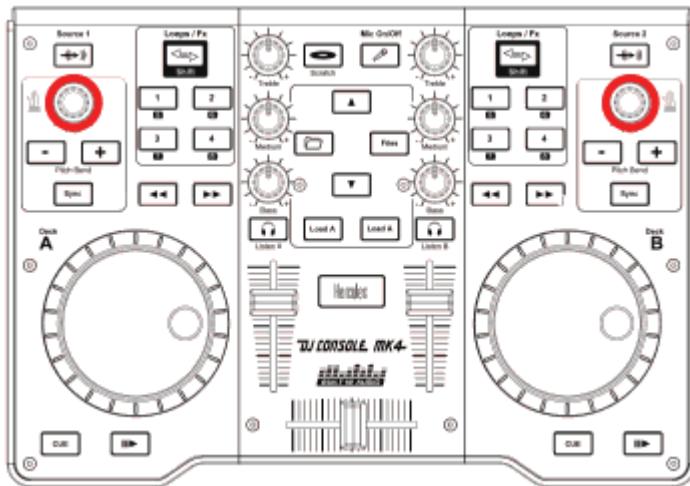
In VirtualDJ's display, the pitch fader is represented by a vertical slider on the right side of each deck.

Once the pitch fader has reached its maximum value in VirtualDJ's display (the top or bottom position), there is no point in keeping on turning the

ENGLISH

FRANÇAIS

DEUTSCH

NEDERLANDS

ITALIANO

ESPAÑOL

Pitch button on your DJ Console Mk4 in the same direction, as the level can go no further.

ii)   Master Tempo = Keylock

Master Tempo is a setting allowing you to keep the tone of a track unchanged while you change the tempo: this is useful to speed up or slow down a track without making its tone change.

You can turn the Master Tempo function in VirtualDJ DJC Mk4 on or off by clicking on the Keylock logo (a lock logo on top of the pitch fader, just above the pitch scale display).

If the lock is **orange**, Master Tempo is ON.

If the lock is **gray**, Master Tempo is OFF.

iii)   Pitch scale

The pitch scale is the percentage of speed variation you can achieve with the pitch fader: a pitch scale of 12% means that the pitch fader's upper position in VirtualDJ corresponds to a 12% slowdown of the music playback, and the pitch fader's lower position corresponds to a 12% acceleration of the music playback (a 100 BPM rate becomes a 88 BPM

rate when moving the fader to the top, and 112BPM when moving the fader to the bottom).

The pitch scale can be changed by clicking on the pitch percentage figure displayed above the pitch fader in the VirtualDJ DJC Mk4 software: you can set a pitch scale of 6%, 8%, 10%, 12%, 20%, 25%, 33%, 50% or 100%.

The lower the pitch scale, the higher the precision of the pitch fader: a low pitch scale makes the pitch fader more precise, but limits your choice to music tracks whose BPM is close enough to the BPM of the music already loaded to be within the pitch scale.

iv) Action of the pitch fader in VirtualDJ

When you move the pitch fader, you can see its action in 2 ways:
-    the BPM counter changes (displayed in VirtualDJ DJC Mk4 to the right of the artist name),
-    the scrolling of the music track in the waveform window goes slower or faster.
However, the best way to note the pitch change is to hear the change in the music's speed.

In the VirtualDJ waveform window, the start of each beat is marked with a small square below the waveform, so:

- if the squares of both music tracks overlap, the music tracks are synchronized,
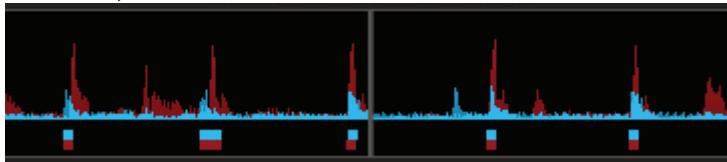

- if the squares of both music tracks don't overlap, the music tracks are not synchronized.
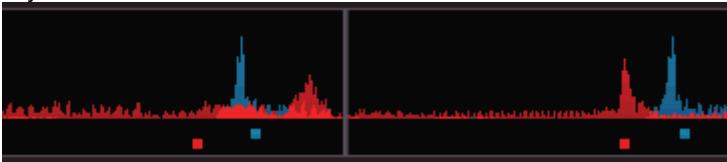
c)   Pitch Bend buttons ("Pitch Bend –" and "Pitch Bend +")

The Pitch Bend –/+ buttons slow down/speed up playback of the music track loaded on a deck. The difference between these functions and the pitch faders is that the pitch bend action is temporary: when you release the button, the music track's playback gradually returns to its previous speed. Pitch bend is therefore an "elastic setting".
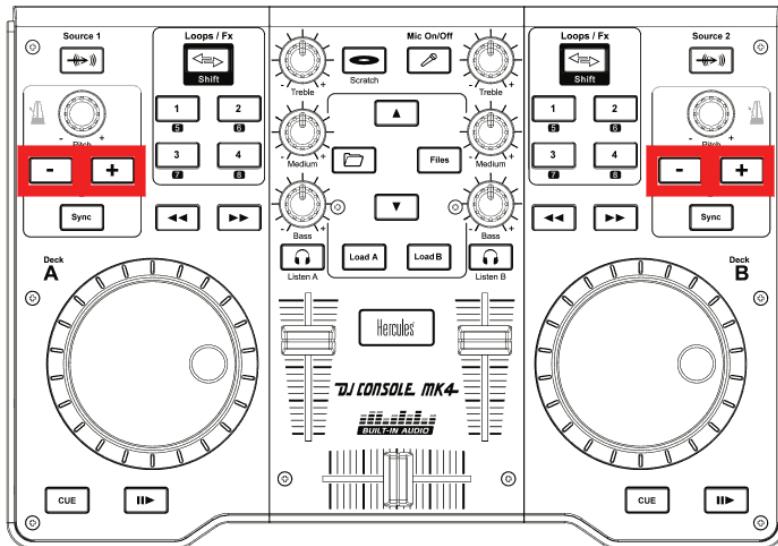
i)   Using Pitch Bend

To beat match 2 music files, you generally:
-    set both music files to the same BPM with the pitch fader, and afterwards,
-    align the beats of one track with the beats of the other track by slowing it down / speeding it up with the pitch bend buttons.

ii)   See the action of Pitch Bend in VirtualDJ

When you press the pitch bend – or pitch bend + button:
-   the BPM counter remains unchanged (displayed in VirtualDJ DJC Mk4, to the right of the artist's name),
-    but the scrolling of the music track in the waveform window is slower of faster.
The best way to note that the pitch bend function has changed the sound is to hear the change in the music's speed.

d) Jog Wheels

While music is playing on a deck, the jog wheel on the deck has 2 possible modes:

- **Fine Tuning** mode (when the Scratch button on DJ Console Mk4 is off): you can slow down or speed up the music playback temporarily by turning the jog wheels, as you would do by pressing the Pitch Bend – or Pitch Bend + buttons. The action is the same as if you were slowing down or speeding up a record on a vinyl turntable by putting your fingers on the edge of the record.

- **Scratch** mode (when the Scratch button on DJ Console Mk4 is lit up): each time you move a jog wheel, you lock the playback of your music track to the movements of the jog wheel, so that keeping the jog wheel in place stops the music, turning the jog wheel counterclockwise plays the music track backward, and turning the jog wheel clockwise plays the music forward, at the speed of the jog wheel's rotation. This scratch mode produces the same action on the music file as if the music were on a vinyl record and you placed the flat of your hand on the record and moved your hand to scratch.
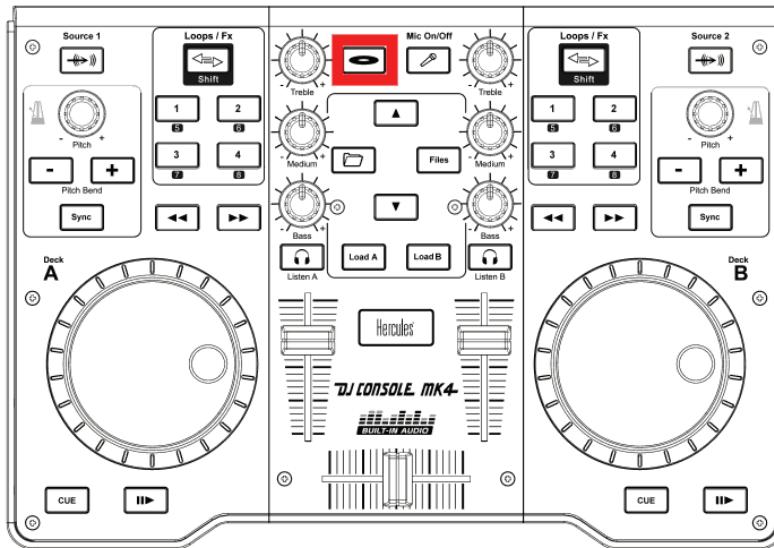
If the Scratch button **is lit up**, the jog wheels are in **scratch** mode.
If the Scratch button **is not lit up**, the jog wheels are in **fine tuning** mode.

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DEUTSCH

NEDERLANDS

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ESPAÑOL

VirtualDJ DJC Mk4

6) LOOPS AND EFFECTS

The DJ's task is not only to play music tracks with no gaps between them, but also to tweak existing music tracks to enhance their energy to stimulate the dancers.

The functions included in VirtualDJ DJC Mk4 Edition are:
- Loops (1-beat, 2-beat, 4-beat, 8-beat)
- Effects (Flanger, Beatgrid, Flippin Double, Overloop) [Please note that in Mac OS, Overloop is not available].

These functions are controlled on each of the DJ Console Mk4's decks by 5 push buttons in the area labeled Loops/Fx: a Shift button, and 4 buttons labeled 1, 2, 3, 4 (which become buttons 5, 6, 7, 8 when the Shift button is enabled).

When the Shift button **is not lit up on your controller**, you are in Loop mode, with buttons 1, 2, 3, 4.
When the Shift button **is lit up on your controller**, you are in Fx mode, with buttons 5, 6, 7, 8.

a)   Loops
i)   Definition
A loop is a repeated playback of a portion of the music, generally a fixed number of beats. Loops are used to remain on a specific part of a music track without stopping its rhythm.

ii)   Loop sizes
When the Shift button **is not lit up on your controller**, you are in loop mode and a single press of buttons 1, 2, 3 or 4 makes loops in the music played on the deck in question.
- Button 1: 1-beat loop,
- Button 2: 2-beat loop,
- Button 3: 4-beat loop,
- Button 4: 8-beat loop.
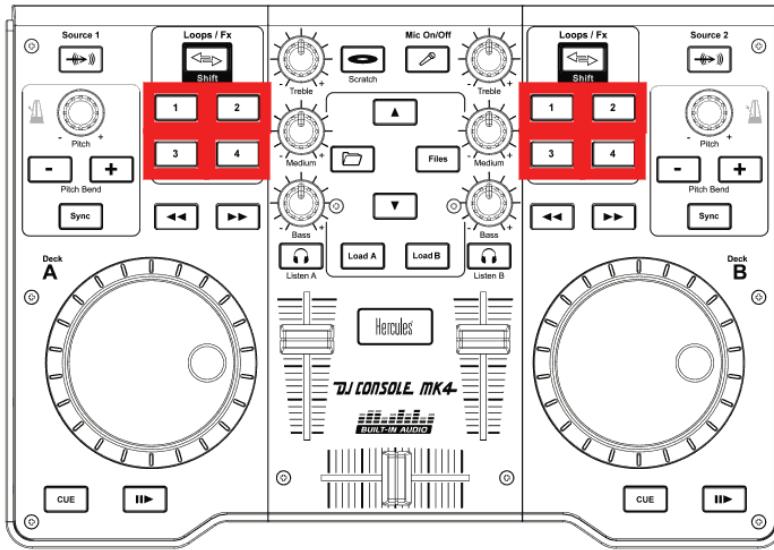
iii)   Procedure
The loop starts exactly at the moment you press the button, so the music plays 1, 2, 4 or 8 beats after the moment you have pressed the button, then comes back to the start of the loop and the music keeps on going continuously, as if the loops were the new music track.

When you enter into a loop (using buttons 1, 2, 3 or 4), you remain in this loop until you decide to exit it. You can exit the loop in 2 different ways:
-    pressing the loop button once closes the loop,
-    pressing another loop button once changes the length of the loop.

iv)   In VirtualDJ DJC Mk4
In VirtualDJ DJC Mk4, you see the loop status on each deck:

If there is no loop, the buttons in the Loop area are not lit up onscreen.
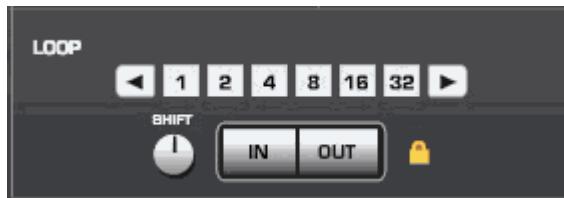
If a loop is engaged, the Loop Out button is red, and the number of beats per loop is also displayed in red in the list of possible loop lengths.

VirtualDJ DJC Mk4

b)   Effects

When the Shift button **is lit up on your controller**, you are in Fx mode, with buttons 5, 6, 7, 8.

The effects mapped on the buttons are:

- Button 5 = Flanger
- Button 6 = Beatgrid
- Button 7 = Flippin Double
- Button 8 = Overloop (only in Windows; in Mac OS, button 8 repeats the last effect)
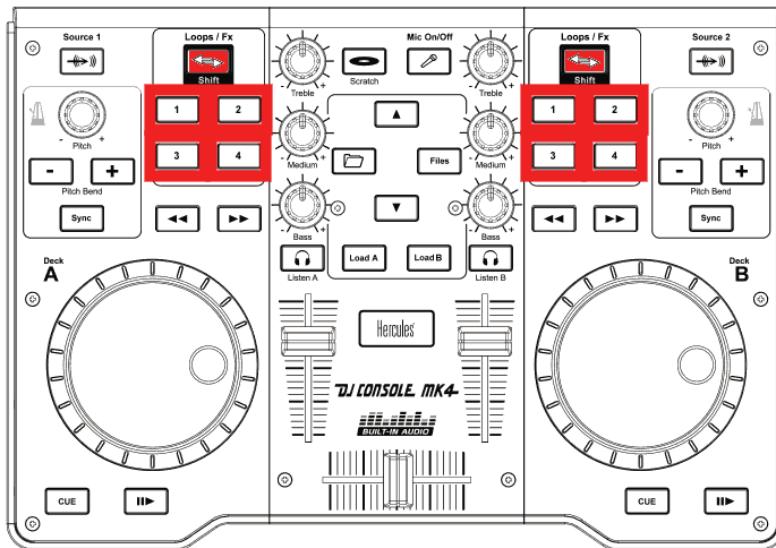
To change the preset of any of these 4 effects, click the Effects button in VirtualDJ.

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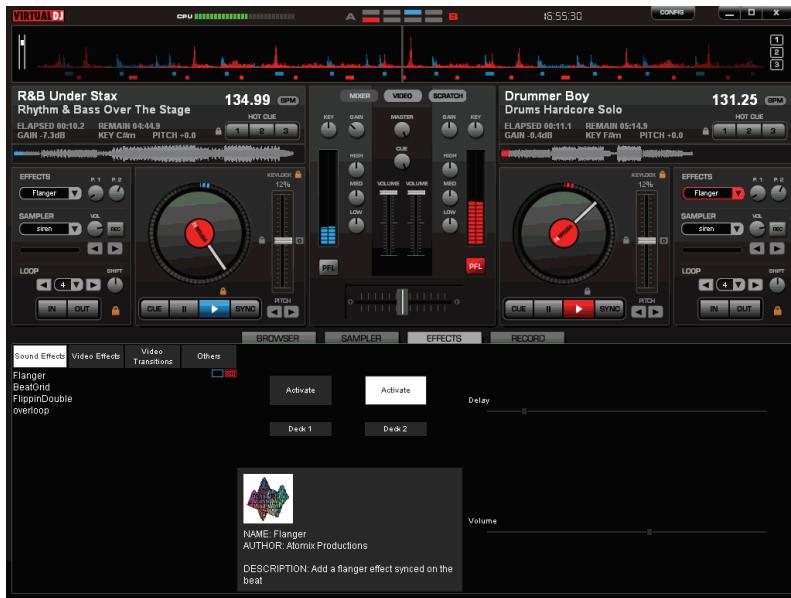
i)   Flanger

The flanger consists of adding a cycle of stretching and compression on some frequencies of an audio track while keeping the other frequencies unchanged, so that you keep the tempo and the tone of the music but change its sound. Flanger is very often used in techno music.

To set the flanger, press the flanger button; to stop it, press the button again.

Changing the flanger

You can change the flanger preset in the Effects menu by selecting:
-    the delay of the flanger,
-   the frequency of the flanger
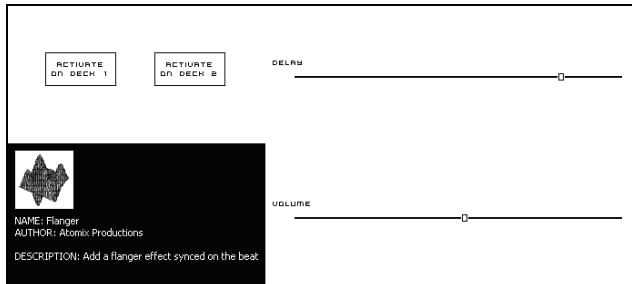
VirtualDJ DJC Mk4

ii)   Beatgrid

The beatgrid is a beat repeater: it samples 4 beats of the current music track and plays this 4-beat pattern over the music, during 4 beats, which adds intermediary beats on the music:

If you keep the beatgrid button pressed down, the 4-beat pattern is added continuously as a loop over the music track.

If you release the beatgrid button, the 4-beat pattern stops at the 4th beat, while the music track playback goes on.

You can change the pattern of the beatgrid by changing the beatgrid preset in the Effects menu.
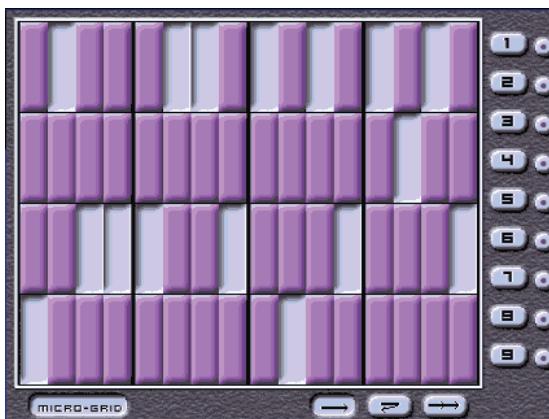
iii)   Flippin Double

Flippin Double repeats the music with half a beat delay, as if you had 2 turntables that were both playing the same track, one playing half a beat behind the other, and you were quickly moving the cross fader to this second turntable at the end of each beat, resulting in a repetition of the rhythm.
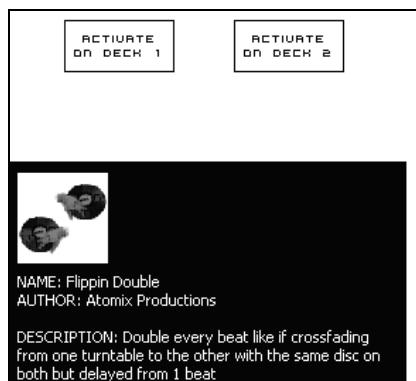
iv)   Overloop

The overloop function sets a 4-beat loop of the current track and plays it in the background of the track's playback.

To apply the overloop function, press the overloop button once.

To stop the overloop function, press the overloop button again.

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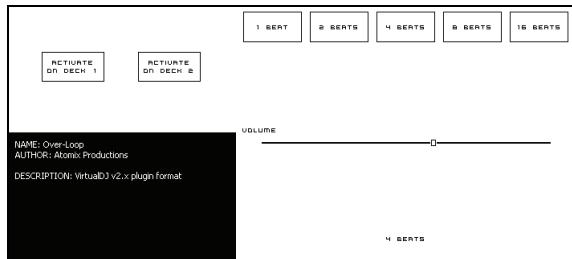
7) SCRATCH, SAMPLER

a)   Scratch

Scratching is the action of stopping a vinyl record playing on a turntable with your hand, and playing a portion of the music backwards and forwards with your hand. This makes a specific sound, called scratching: the vinyl record moves at the speed of your hand instead of turning at the speed of the turntable (since the slip mat placed below the record isolates the record from the rotations of the turntable).

i)   Scratch mode

You can enter into scratch mode by pressing the scratch button, located over the Up button on your controller: the button lights up, and you can use the jog wheels to scratch.
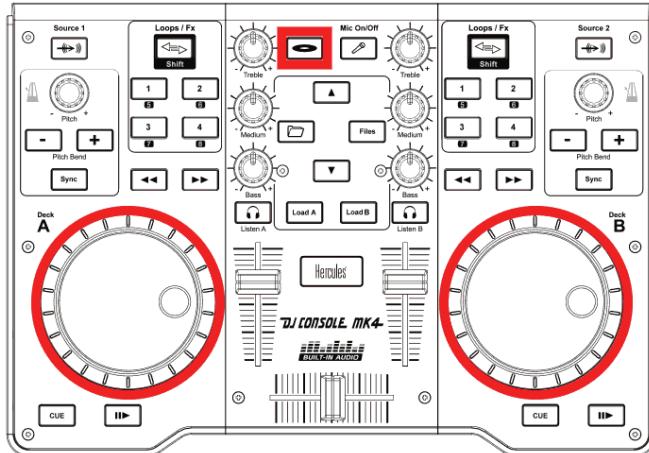
ii)   Action

Once you are in scratch mode, if you turn the jog wheel counterclockwise, you play the music track backward, and if you turn the jog wheel clockwise, you play the music forward, at the speed of the jog wheel's rotation.

iii)   Jog wheel accuracy

Scratching requires the best accuracy for the jog wheel, so in the DJ Console Mk4 control panel, you should select the standard jog wheel accuracy instead of one of the reduced accuracy modes.

You can set the accuracy of the jog wheels in the DJ Console Mk4 control panel: for some operations, some DJs may prefer to reduce the accuracy of the jog wheels, and divide it by 2 or by 4; but for scratching, the higher the accuracy, the better the results.

b)   Sampler

i)   Function

The sampler mode is a mode where you record a loop of a music track, store it and assign it to a button, and play it back later in addition to your music file. This recorded loop is called a sample.

Playing back a sample over a music track may add a fun dynamic, rhythm or a stable beat while you are busy preparing the next track.

ii)   Procedure

You can enter sampler mode by pressing the button labeled **Sampler** in the VirtualDJ user interface.

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The sampler mode is not controlled by the DJ Console Mk4's buttons; you control sampler mode using your keyboard and mouse.

VirtualDJ includes a few samples stored on the first banks: you can either keep them or change the contents of the banks by recording your own samples.

You can record a sample of the music currently playing by selecting the bank where you want to store the sample and pressing the **Rec** button:

− If you are in a loop, the sample Rec button remains black, and VirtualDJ records a sample of the length of the loop,

− if you are not in loop mode, the sample Rec button becomes red, and VirtualDJ keeps on recording the sample as long as you don't click the Rec button again.

You play back the sample by pressing the sample **Play** button.

iii)   Commands on each sample
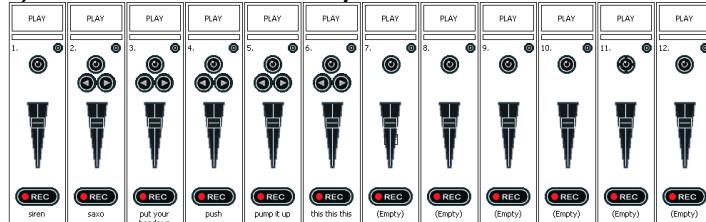
You set the volume of each sample using its dedicated volume slider.

VirtualDJ DJC Mk4

You set the sample in loop mode (so that VirtualDJ plays the sample non-stop as long as you don't click the sample Play button again) by clicking the button with a circular arrow on top of the volume slider.

A sample in non-loop mode has no left and right arrows over the volume slider.
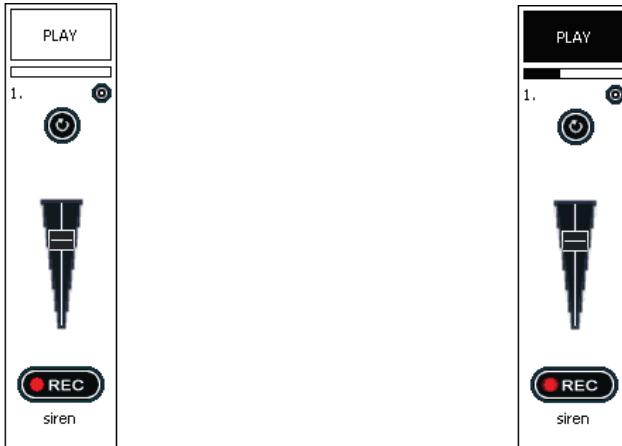
When you click on the Play area, its color changes and you see the playback bar fill gradually.

A sample in loop mode has a left and right arrow over the volume slider, to move backwards and forwards within the sample.
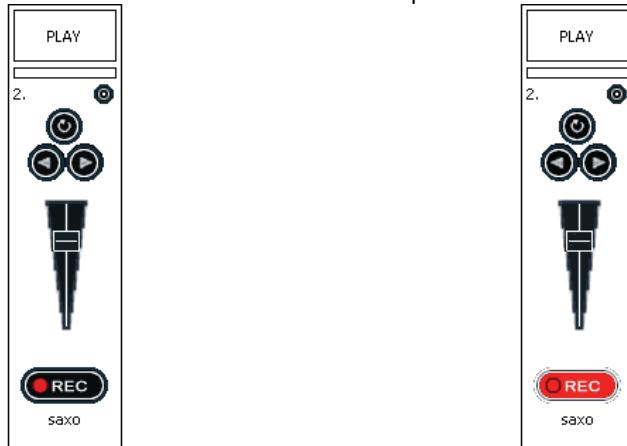
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Declaration of conformity
EC COMPLIANCE NOTICE: DJ Console Mk4 has been tested and found to comply with the limits of the Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility, amended by Directive 93/68/EEC. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
CANADIAN COMPLIANCE NOTICE: this Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Electrostatic Discharge
In the event of electrostatic discharge on the contactors or fasteners, you may be required to reset the device.

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End-user software license Agreement
Please carefully read the License contract displayed when installing the VirtualDJ software. Afterwards, you can view the text file installed on your computer at any time.

ENVIRONMENTAL PROTECTION RECOMMENDATION
At the end of its working life, this product should not be disposed of with standard household waste, but rather dropped off at a collection point for the disposal of Waste Electrical and Electronic Equipment (WEEE) for recycling. This is confirmed by the symbol found on the product, user manual or packaging. Depending on their characteristics, the materials may be recycled. Through recycling and other forms of processing Waste Electrical and Electronic Equipment, you can make a significant contribution towards helping to protect the environment. Please contact your local authorities for information on the collection point nearest you.

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