DENON

Serato ITCH™ for Mobile Entertainers

DN-HC5000

FULL MANUAL

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT TO SAFETY

WARNING:

To reduce the risk of fire and electric shock, this apparatus should not be exposed to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.

CAUTION:

1. Handle the power supply cord carefully

Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or malfunction when used. When removing from wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.

2. Do not open the rear cover

In order to prevent electric shock, do not open the top cover.
If problems occur, contact your DENON DEALER.

3. Do not place anything inside

Do not place metal objects or spill liquid inside the system.
Electric shock or malfunction may result.

Please, record and retain the Model name and serial number of your set shown on the rating label.
Model No. DN-HC5000
Serial No. _____

CAUTION:

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
THIS PRODUCT SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

FCC INFORMATION
(For US customers)

1. PRODUCT

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

2. IMPORTANT NOTICE:
DO NOT MODIFY THIS PRODUCT

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modification not expressly approved by D&M Professional may void your authority, granted by the FCC, to use the product.

3. NOTE

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the product into an outlet on a circuit different from that to which the receiver is connected.
• Consult the local retailer authorized to distribute this type of product or an experienced radio/TV technician for help.

This Class B apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IMPORTANT SAFETY INSTRUCTIONS

READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
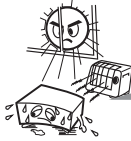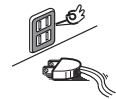
Additional Safety Information!

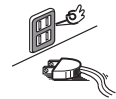15. Marked terminals are HAZARDOUS LIVE and that the external wiring connected to those terminal requires installation by an instructed person or the use of ready-made leads or cords.

∗ The plug with the polarity adopts only the specification for North America.

NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION / NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA

- Avoid high temperatures.
  Allow for sufficient heat dispersion when installed in a rack.
- Vermeiden Sie hohe Temperaturen.
  Beachten Sie, dass eine ausreichende Belüftung gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées.
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature elevate.
  Assicuratevi che vi sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas.
  Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen.
  Zorg er bij installatie in een audiorack voor, dat de door het toestel geproduceerde warmte goed kan worden afgevoerd.
- Undvik höga temperaturer.
  Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.

- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Maneggiate il cavo di alimentazione con attenzione.
  Tenete ferma la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado.
  Sostenga el enchufe cuando desconecte el cordón de energía.
- Hanteer het netsnoer voorzichtig.
  Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt.
  Håll i kabeln när den kopplas från eluttaget.

- Keep the unit free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.

- Unplug the power cord when not using the unit for long periods of time.
- Wenn das Gerät längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Scollegate il cavo di alimentazione quando prevedete di non utilizzare l'unità per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopkontakt wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla loss nätkabeln om apparaten inte kommer att användas i lång tid.

* (For apparatuses with ventilation holes)

- Do not obstruct the ventilation holes.
- Decken Sie den Lüftungsbereich nicht ab.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden beblokkeerd.
- Täpp inte till ventilationsöppningarna.

- Do not let foreign objects into the unit.
- Lassen Sie keine fremden Gegenstände in das Gerät kommen.
- Ne pas laisser des objets étrangers dans l'appareil.
- Non inserite corpi estranei all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.

- Do not let insecticides, benzene, and thinner come in contact with the unit.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevi che l'unità non entri in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Voorkom dat insecticiden, benzeen of verfverdunner met dit toestel in contact komen.
- Se till att inte insektsmedel på sprayburk, bensen och thinner kommer i kontakt med apparatens hölje.

- Never disassemble or modify the unit in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate né modificate l'unità in alcun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Dit toestel mag niet gedemonteerd of aangepast worden.
- Ta inte isär apparaten och försök inte bygga om den.

CAUTION:
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the unit.
- Observe and follow local regulations regarding battery disposal.
- Do not expose the unit to dripping or splashing fluids.
- Do not place objects filled with liquids, such as vases, on the unit.

ACHTUNG:
- Die Belüftung sollte auf keinen Fall durch das Abdecken der Belüftungsöffnungen durch Gegenstände wie beispielsweise Zeitungen, Tischtücher, Vorhänge o. Ä. behindert werden.
- Auf dem Gerät sollten keinerlei direkte Feuerquellen wie beispielsweise angezündete Kerzen aufgestellt werden.
- Bitte beachten Sie bei der Entsorgung der Batterien die örtlich geltenden Umweltbestimmungen.
- Das Gerät sollte keiner tropfenden oder spritzenden Flüssigkeit ausgesetzt werden.
- Auf dem Gerät sollten keine mit Flüssigkeit gefüllten Behälter wie beispielsweise Vasen aufgestellt werden.

ATTENTION:
- La ventilation ne doit pas être gênée en recouvrant les ouvertures de la ventilation avec des objets tels que journaux, rideaux, tissus, etc.
- Aucune flamme nue, par exemple une bougie, ne doit être placée sur l'appareil.
- Veillez à respecter les lois en vigueur lorsque vous jetez les piles usagées.
- L'appareil ne doit pas être exposé à l'eau ou à l'humidité.
- Ne pas poser d'objet contenant du liquide, par exemple un vase, sur l'appareil.

ATTENZIONE:
- Le aperture di ventilazione non devono essere ostruite coprendole con oggetti, quali giornali, tovaglie, tende e così via.

- Non posizionate sull'unità fiamme libere, come ad esempio candele accese.
- Prestate attenzione agli aspetti legati alla tutela dell'ambiente nello smaltimento delle batterie.
- L'apparecchiatura non deve essere esposta a gocciolii o spruzzi.
- Non posizionate sull'unità alcun oggetto contenente liquidi, come ad esempio i vasi.

PRECAUCIÓN:
- La ventilación no debe quedar obstruida por haberse cubierto las aperturas con objetos como periódicos, manteles, cortinas, etc.
- No debe colocarse sobre el aparato ninguna fuente inflamable sin protección, como velas encendidas.
- A la hora de deshacerse de las pilas, respete la normativa para el cuidado del medio ambiente.
- No exponer el aparato al goteo o salpicaduras cuando se utilice.
- No colocar sobre el aparato objetos llenos de líquido, como jarros.

WAARSCHUWING:
- De ventilatie mag niet worden belemmerd door de ventilatieopeningen af te dekken met bijvoorbeeld kranten, een tafelkleed, gordijnen, enz.
- Plaats geen open vlammen, bijvoorbeeld een brandende kaars, op het apparaat.
- Houd u steeds aan de milieuvoorschriften wanneer u gebruikte batterijen wegdoet.
- Stel het apparaat niet bloot aan druppels of spatten.
- Plaats geen voorwerpen gevuld met water, bijvoorbeeld een vaas, op het apparaat.

OBSERVERA:
- Ventilationen bör inte förhindras genom att täcka för ventilationsöppningarna med föremål såsom tidningar, bordsdukar, gardiner osv.
- Inga blottade brandkällor, såsom tända ljus, får placeras på apparaten.
- Tänk på miljöaspekterna när du bortskaffar batterier.
- Apparaten får inte utsättas för vätska.
- Placera inte föremål fyllda med vätska, t.ex. vaser, på apparaten.

(For Europe customers)

- **DECLARATION OF CONFORMITY**
  We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:
  EN60065, EN55013, EN55020, EN61000-3-2 and EN61000-3-3. EN55022, EN55024 for USB as multifunction terminal.
  Following the provisions of 2006/95/EC and 2004/108/EC Directive.

- **UBEREINSTIMMUNGSERKLARUNG**
  Wir erklaren unter unserer Verantwortung, das dieses Produkt, auf das sich diese Erklarung bezieht, den folgenden Standards entspricht:
  EN60065, EN55013, EN55020, EN61000-3-2 und EN61000-3-3. EN55022, EN55024 fur USB Multifunktionsbuchse.
  Entspricht den Verordnungen der Direktive 2006/95/EC und 2004/108/EC.

- **DECLARATION DE CONFORMITE**
  Nous declarons sous notre seule responsabilite que l'appareil, auquel se refere cette declaration, est conforme aux standards suivants:
  EN60065, EN55013, EN55020, EN61000-3-2 et EN61000-3-3. EN55022, EN55024 USB comme prise de multifonction.
  D'apres les dispositions de la Directive 2006/95/EC et 2004/108/EC.

- **DICHIARAZIONE DI CONFORMITA**
  Dichiariamo con piena responsabilita che questo prodotto, al quale la nostra dichiarazione si riferisce, e conforme alle seguenti normative:
  EN60065, EN55013, EN55020, EN61000-3-2 e EN61000-3-3. EN55022, EN55024 per USB come terminale multifunzione.

In conformita con le condizioni delle direttive 2006/95/EC e 2004/108/EC.
QUESTO PRODOTTO E' CONFORME
AL D.M. 28/08/95 N. 548

- **DECLARACION DE CONFORMIDAD**
  Declaramos bajo nuestra exclusiva responsabilidad que este producto al que hace referencia esta declaracion, esta conforme con los siguientes estandares:
  EN60065, EN55013, EN55020, EN61000-3-2 y EN61000-3-3. EN55022, EN55024 para USB como terminal multifuncional.
  Siguiendo las provisiones de las Directivas 2006/95/EC y 2004/108/EC.

- **EENVORMIGHEIDSVERKLARING**
  Wij verklaren uitsluitend op onze verantwoordelijkheid dat dit produkt, waarop deze verklaring betrekking heeft, in overeenstemming is met de volgende normen:
  EN60065, EN55013, EN55020, EN61000-3-2 en EN61000-3-3. EN55022, EN55024 for USB som multifunktionskontakten.
  Volgens de bepalingen van de Richtlijnen 2006/95/EC en 2004/108/EC.

- **OVERENSSTAMMELSESINTYG**
  Harmed intygas helt pa eget ansvar att denna produkt, vilken detta intyg avser, uppfyller foljande standarder:
  EN60065, EN55013, EN55020, EN61000-3-2 och EN61000- 3-3. EN55022, EN55024 for USB som multifunktionskontakten.
  Enligt stadgarna i direktiv 2006/95/EC och 2004/108/EC.

D&M Business & Professional Group (Europe)
Kingsbridge House, Padbury Oaks Longford
Middlesex UB7 0EW UK

A NOTE ABOUT RECYCLING:

This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations.

When discarding the unit, comply with local rules or regulations.

Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal.

This product and the supplied accessories, excluding the batteries, constitute the applicable product according to the WEEE directive.

HINWEIS ZUM RECYCLING:

Das Verpackungsmaterial dieses Produktes ist zum Recyceln geeignet und kann wieder verwendet werden. Bitte entsorgen Sie alle Materialien entsprechend der örtlichen Recycling-Vorschriften.

Beachten Sie bei der Entsorgung des Gerätes die örtlichen Vorschriften und Bestimmungen.

Die Batterien dürfen nicht in den Hausmüll geworfen oder verbrannt werden; bitte entsorgen Sie die Batterien gemäß der örtlichen Vorschriften.

Dieses Produkt und das im Lieferumfang enthaltene Zubehör (mit Ausnahme der Batterien!) entsprechen der WEEE-Direktive.

UNE REMARQUE CONCERNANT LE RECYCLAGE:

Les matériaux d'emballage de ce produit sont recyclables et peuvent être réutilisés. Veuillez disposer des matériaux conformément aux lois sur le recyclage en vigueur.

Lorsque vous mettez cet appareil au rebut, respectez les lois ou réglementations en vigueur.

Les piles ne doivent jamais être jetées ou incinérées, mais mises au rebut conformément aux lois en vigueur sur la mise au rebut des piles.

Ce produit et les accessoires inclus, à l'exception des piles, sont des produits conformes à la directive DEEE.

NOTA RELATIVA AL RICICLAGGIO:

I materiali di imballaggio di questo prodotto sono riutilizzabili e riciclabili. Smaltire i materiali conformemente alle normative locali sul riciclaggio.

Per lo smaltimento dell'unità, osservare le normative o le leggi locali in vigore.

Non gettare le batterie, né incenerirle, ma smaltirle conformemente alla normativa locale sui rifiuti chimici.

Questo prodotto e gli accessori inclusi nell'imballaggio sono applicabili alla direttiva RAEE, ad eccezione delle batterie.

ACERCA DEL RECICLAJE:

Los materiales de embalaje de este producto son reciclables y se pueden volver a utilizar. Disponga de estos materiales siguiendo los reglamentos de reciclaje de su localidad.

Cuando se deshaga de la unidad, cumpla con las reglas o reglamentos locales.

Las pilas nunca deberán tirarse ni incinerarse. Deberá disponer de ellas siguiendo los reglamentos de su localidad relacionados con los desperdicios químicos.

Este producto junto con los accesorios empaquetados es el producto aplicable a la directiva RAEE excepto pilas.

EEN AANTEKENING MET BETREKKING TOT DE RECYCLING:

Het inpakmateriaal van dit product is recycleerbaar en kan opnieuw gebruikt worden. Er wordt verzocht om zich van elk afvalmateriaal te ontdoen volgens de plaatselijke voorschriften.

Volg voor het wegdoen van de speler de voorschriften voor de verwijdering van wit- en bruingoed op.

Batterijen mogen nooit worden weggegooid of verbrand, maar moeten volgens de plaatselijke voorschriften betreffende chemisch afval worden verwijderd.

Op dit product en de meegeleverde accessoires, m.u.v. de batterijen is de richtlijn voor afgedankte elektrische en elektronische apparaten (WEEE) van toepassing.

OBSERVERA ANGÅENDE ÅTERVINNING:

Produktens emballage är återvinningsbart och kan återanvändas. Kassera det enligt lokala återvinningsbestämmelser.

När du kasserar enheten ska du göra det i överensstämmelse med lokala regler och bestämmelser.

Batterier får absolut inte kastas i soporna eller brännas. Kassera dem enligt lokala bestämmelser för kemiskt avfall.

Denna apparat och de tillbehör som levereras med den uppfyller gällande WEEE-direktiv, med undantag av batterierna.

Pb

CAUTION:

To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet.

The mains plug is used to completely interrupt the power supply to the unit and must be within easy access by the user.

VORSICHT:

Um dieses Gerät vollständig von der Stromversorgung abzutrennen, ziehen Sie bitte den Stecker aus der Wandsteckdose.

Der Netzstecker wird verwendet, um die Stromversorgung zum Gerät völlig zu unterbrechen; er muss für den Benutzer gut und einfach zu erreichen sein.

PRECAUTION:

Pour déconnecter complètement ce produit du courant secteur, débranchez la prise de la prise murale.

La prise secteur est utilisée pour couper complètement l'alimentation de l'appareil et l'utilisateur doit pouvoir y accéder facilement.

ATTENZIONE:

Per scollegare completamente questo prodotto dalla rete di alimentazione elettrica, scollegare la spina dalla relativa presa a muro.

La spina di rete viene utilizzata per interrompere completamente l'alimentazione all'unità e deve essere facilmente accessibile all'utente.

PRECAUCIÓN:

Para desconectar completamente este producto de la alimentación eléctrica, desconecte el enchufe del enchufe de la pared.

El enchufe de la alimentación eléctrica se utiliza para interrumpir por completo el suministro de alimentación eléctrica a la unidad y debe de encontrarse en un lugar al que el usuario tenga fácil acceso.

WAARSCHUWING:

Om de voeding van dit product volledig te onderbreken moet de stekker uit het stopcontact worden getrokken.

De netstekker wordt gebruikt om de stroomtoevoer naar het toestel volledig te onderbreken en moet voor de gebruiker gemakkelijk bereikbaar zijn.

FÖRSIKTIHETSMÅTT:

Koppla loss stickproppen från eluttaget för att helt skilja produkten från nätet.

Stickproppen används för att helt bryta strömförsörjningen till apparaten, och den måste vara lättillgänglig för användaren.

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1   FEATURES

■ **The DN-HC5000 is designed exclusively for Serato ITCH software.**

■ **ITCH software updates available at www.serato.com.**

■ **Internal 24-Bit Processing & USB Audio**
Unlike most DJ USB controllers that are only USB bus powered, the DN-HC5000 encompasses its own internal power supply to achieve the highest electrical specifications, resulting in best possible performance. The DN-HC5000 features industry leading Burr Brown (a product of TI) 24 bit DAC processing for superior output audio fidelity. USB Audio interface includes 2-Channel Stereo output pair, 44.1/48 kHz sampling ranges and OSX Core Audio support.

■ **BU4500 Drive Support**
The sold separately and optional BU4500 dual CD/MP3 player allows DJ's to continue playing from their CD collection (whenever required) while still controlling your favorite DJ software. The BU4500 can also be seen and used as a "backup" system without having to rewire a thing in the case of computer failure. Just select the ITCH/CD button on either deck to switch off over to CD playback seamlessly. This clever combo system makes the DN-HC5000 the most powerful and flexible DJ hardware controller on the planet. In addition, current DENON DN-D4500 / DN-D4000 owners are welcome to enjoy all these benefits by purchasing the DN-HC5000 and upgrading your system to be computer performance ready (page 10).

■ **Multi Functional Touch Sensitive Jog Disc**
The 71 mm JOG Disc is constructed with an ultra high-resolution pulse and touch sensor to accurately reproduce the most subtle or swift scratching movements made by the human hand.

■ **Vibrant Tube Display w/ 2-line Character Text Support**
Another unique quality of the DN-HC5000 is its informative & animated tube display. The display offers two lines of character information to quickly navigate through your files, crates, folders and confirms you loaded the correct file without having to look up at your monitor. A visual 32-position Marker Point indicator follows your hand movements at high speed without drift. Other indicators include Looping, Hot Starts, BPM info, Elapsed/Remain Time, MP3/WAV file types, and other useable indicators.

■ **Highly Responsive Soft Rubber Buttons, Switches & Knobs**
• 45 mm Pitch Sliders capable of deep resolution or wide pitch ranges
• Vibrant CUE/PLAY button illumination
• 2 level illumination of certain buttons
• Multi color illumination of certain buttons for layering functions
• Multi color LED' for layering functions
• Pitch Bend buttons

■ **Traditional & Intuitive Dual CD Player Style Layout**

■ **High Speed USB 2.0 Interface**

■ **Fader Start**
Supports traditional Fader Start, including all DENON Mixers

■ **Recessed Side Panel for Easy Connections**

■ **Versatile Rackmount and Tabletop design**

■ **User Adjustable Presets.**

ACCESSORIES
Check that the following parts are included in addition to the main unit:

① Audio cord...2
② USB cable 1
③ Operating instructions 1
④ CD-ROM 1
⑤ AC power cord...1

2 CONNECTIONS

1. ITCH Connection

CAUTION:
- Be sure to use the supplied control cord. Using another type of cable may result in damage.
- Be sure the power is off when connecting the control cord. Otherwise the units may not work properly.

RCA Cord　　　　　　　　　　　CH4 Input jack　　CH6 Input jack　　　　　　　　RCA Cord

3.5 mm stereo mini cord　　　　　CH4 Fader jack　　CH6 Fader jack　　　　3.5 mm stereo mini cord

X-control

DN-X900

DN-HC5000

Deck1
Fader jack

Deck1 Output jack

Deck2
Fader jack

Deck2 Output jack

USB B terminal
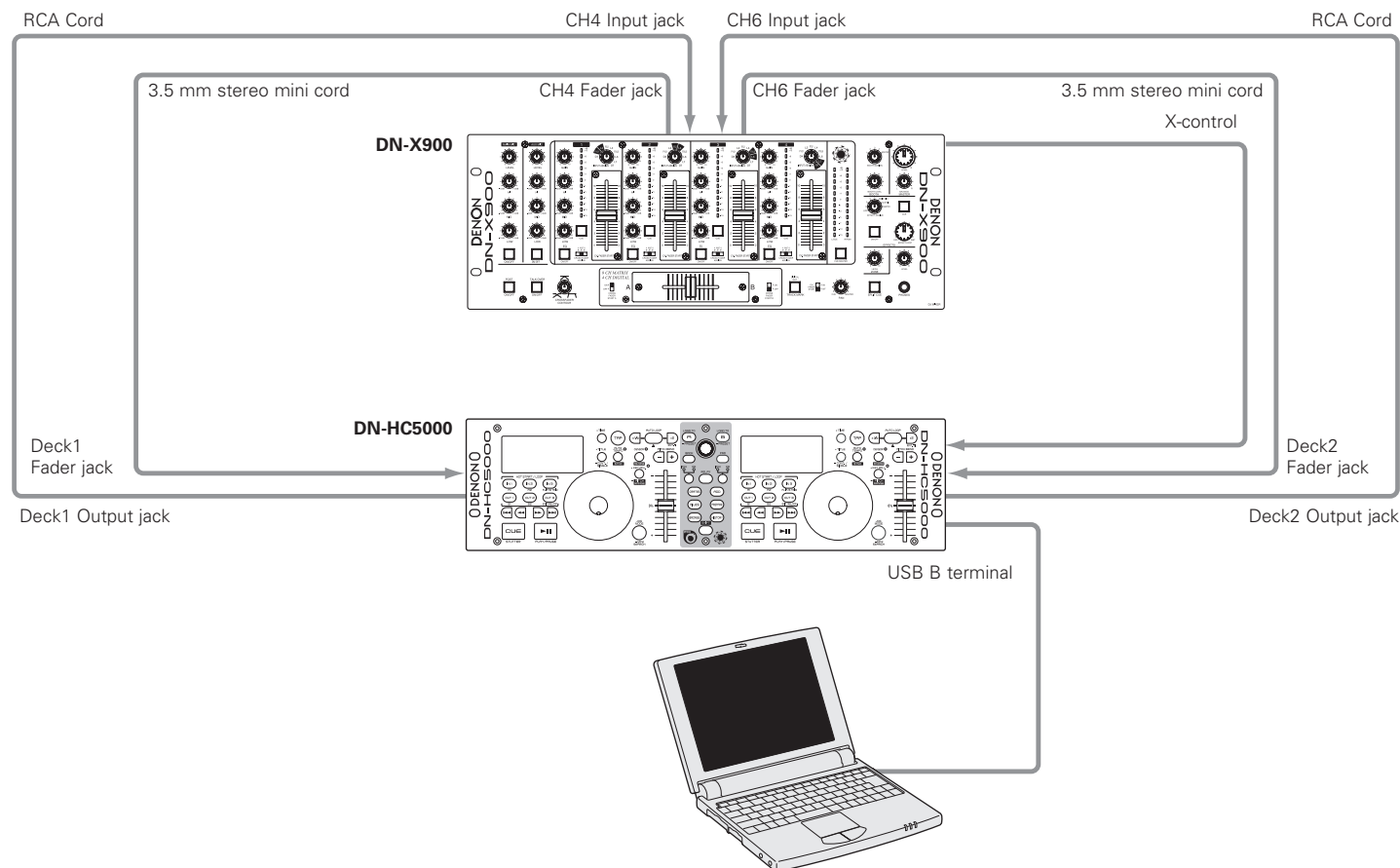
CONNECTION TO A PC

- The DN-HC5000 is a plug-and-play device.
  This means that when the DN-HC5000 is first connected to your computer, the driver is installed automatically.

- To connect the DN-HC5000 and a PC via a usable USB port, use the included USB cable.

- When connected, the display below appears at the bottom right of the PC's screen.

> ℹ **Found New Hardware**　❎
>
> USB audio device

Once installation is completed, the message "Your new hardware is installed and ready to use." is displayed, as shown below.

> ℹ **Found New Hardware**　❎
>
> Your new hardware is installed and ready to use.

Installation is now complete. The DN-HC5000 is now usable.

CONNECTION TO A MACINTOSH COMPUTER

- The DN-HC5000 is plug-and-play device based on the Macintosh OS, and is immediately ready for use when connected.

- To connect the DN-HC5000 and Macintosh computer via a usable USB port, use the included USB cable.

2

PLEASE NOTE:

• These are the minimum requirements to run ITCH with the Denon DJ DN-HC5000.

• For best performance and for use in professional situations we recommend you buy a higher spec computer.

Windows XP

• Intel processor, Pentium 4 mobile 2 GHz or better

• 1 GB RAM

• 1024 x 768 screen resolution

• Service Pack 2 or higher

• Available USB Port

• Hard disk space for music

Windows Vista 32bit & 64bit

• Intel processor, Core Duo 1.6 GHz or better

• 1 GB RAM

• 1024 x 768 screen resolution

• Service Pack 1 or higher

• Available USB Port

• Hard disk space for music

Macintosh

• Intel processor, 1.6 GHz or better

• 1 GB RAM

• 1024 x 768 screen resolution

• OSX 10.4.11 or higher

• Available USB Port

• Hard disk space for music

• Windows is either a registered trademark or trademark of Microsoft Corporation in the United States and / or other countries.

• Macintosh is either a registered trademark or trademark of Apple Incorporated in the United States and / or other countries.

2. CD PLAYER Connection

CAUTION:

• Be sure to use the supplied control cord. Using another type of cable may result in damage.

• Be sure the power is off when connecting the control cord. Otherwise the units may not work properly.

1. Turn off the POWER switch.

2. Connect the RCA pin cords to the inputs on your mixer.

3. Device Selection

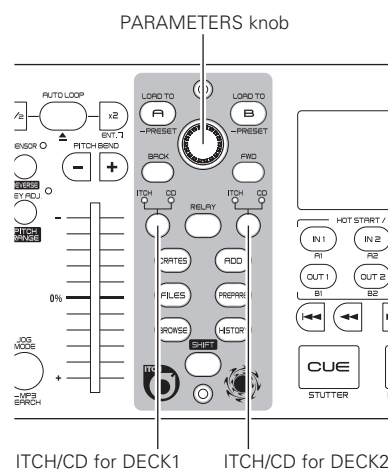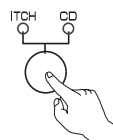PARAMETERS knob

ITCH/CD for DECK1   ITCH/CD for DECK2
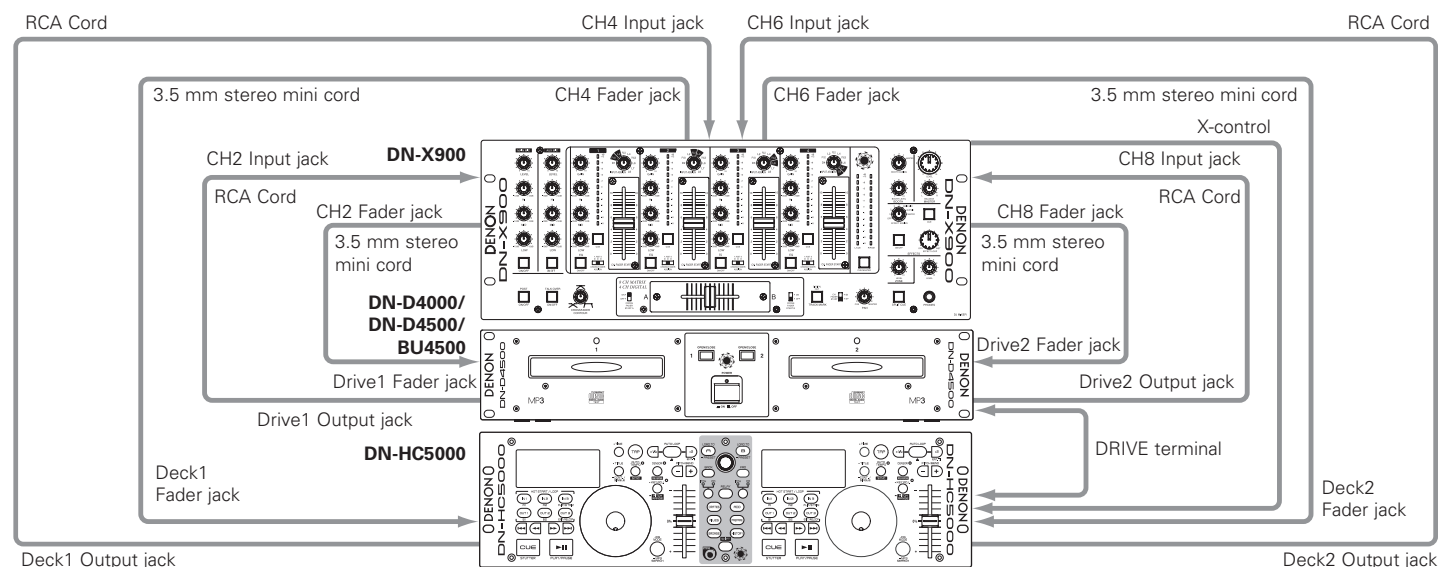
• Press the ITCH/CD button for Deck A or Deck B (the side whose device you want to switch) to display the source selection screen.
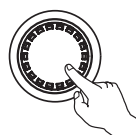
Display when ITCH is connected

```
SELECT ITCH
      OK?   »↓
```

Display when CD is connected

```
SELECT CD
      OK?   »↓
```

Note:
• Press the BACK button to return to the normal mode.

• Press the PARAMETERS knob to complete device selection.
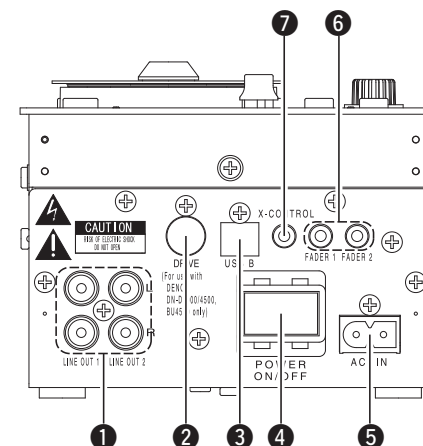
Display when ITCH is connected

```
SELECT ITCH
   CANCEL?  »↓
```

Display when CD is connected

```
SELECT CD
   CANCEL?  »↓
```

Note:
• Turn the PARAMETERS knob to switch the display. Press the PARAMETERS knob or BACK button while the message below is displayed to return to the normal mode.

4. Side Panel

❶ **LINE OUT 1/2 terminals**
  • This is unbalanced RCA output terminals.
  • Audio signals outputs.

❷ **DRIVE terminal**
  • Connect the DN-D4000/D4500/BU4500 drive unit.
    For instructions on operating the DN-D4000/D4500/BU4500, refer to the respective model's operating instructions.

❸ **USB B terminal**
  • Connect to a computer.
  • Sends the control commands from the DN-HC5000.
  • Sends the USB audio signals from a PC.

❹ **POWER ON/OFF button**
  • Press this button to turn power on and off.

❺ **AC IN terminal**
  • Inlet the power cord's plug into DN-HC5000's AC inlet terminal.
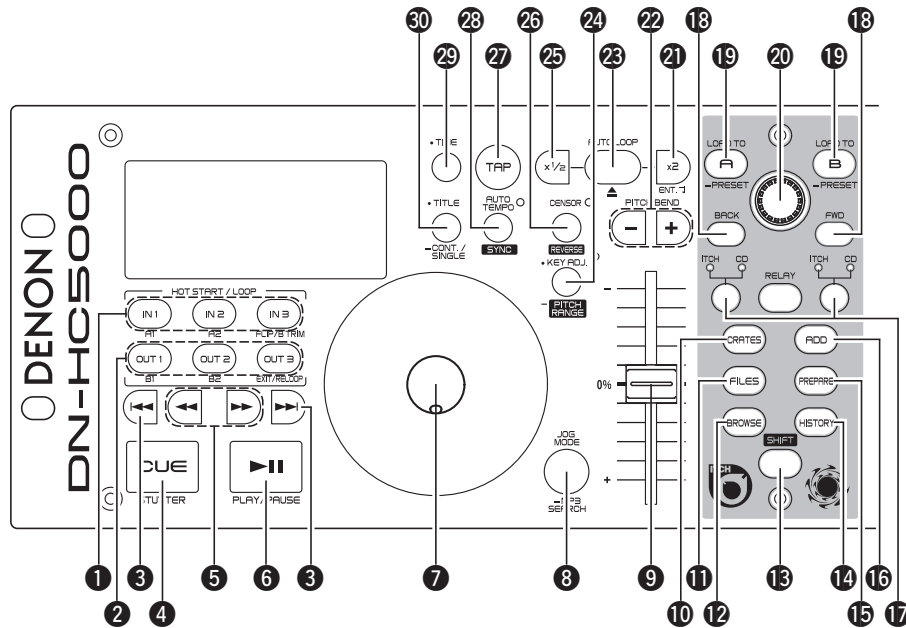
❻ **FADER 1/2 terminals**
  • Use this when your mixer has the Fader Start function.

❼ **X-CONTROL terminal**
  • Use this when connected to a DENON DN-X900 or DN-X500 mixer that offers X-Control.
  • With the DN-HC5000 it is possible to convert the input fader position into a control signal.

4

3 ITCH OPERATION

1. Front panel (ITCH)

q IN1 / IN2 / IN3
Pressing IN1/IN2/IN3 button will set cue points 1/2/3, pressing them again will begin playback from the relevant cue point.
Press SHIFT + IN1/IN2/IN3 to delete a cue point.

w OUT1 / OUT2 / OUT3
When you have a cue point set this will create a loop out point. Playback will loop between the cue point and the out point.
Press SHIFT + OUT1 / OUT2 / OUT3 to delete a loop out point.

e ⏮ ⏭ TRACK (FILE) SEARCH
Skip to the next or previous track in the current selection.

r CUE
Pressing this button in play mode will force the file back to the position which playback started.

t ◀◀ ▶▶ FAST SEARCH
When one of these buttons is pressed and held in, the disc is fast-searched in the reverse (◀◀) or forward (▶▶) direction.

y PLAY/PAUSE
This button will start or pause playback.

u JOG disc
Use the JOG disc to move through and scrub the track.

i JOG MODE
Select from Scratch Mode and Nudge Mode.

o Pitch Slider
Use this slider to adjust playing speed.
The playing speed decreases when sliding upwards and increases downwards.

❿ CRATES
Switches cursor focus to the crates area.

⓫ FILES
Switches cursor focus to the files area.

⓬ BROWSE
Switches cursor focus to the browse area.

⓭ SHIFT
Holding shift engages shift functions of many of the buttons.

⓮ HISTORY
Switches cursor focus to the history area.

⓯ PREPARE
Switches cursor focus to the prepare area.

⓰ ADD
Adds selected track to the prepare area.

⓱ ITCH / CD
Toggle between ITCH or CD control.

⓲ FWD / BACK
Skip to the next or previous track in the current selection.

⓳ LOAD TO A/B
The track that has been selected is loaded into each deck A and B.

⓴ PARAMETERS knob
• Turn the PARAMETERS knob to navigate up and down through the library.
• Press to move through any browse fields available.

㉑ X2
Doubles the length of the current Auto Loop.

㉒ PITCH BEND
Press + to temporarily increase playback speed, press – to temporarily decrease playback speed.

㉓ AUTO LOOP
Auto loop works for tracks that have BPM calculated and when pressed will create an auto loop of the current Auto loop value.

㉔ KEY ADJ. / PITCH RANGE
• KEY ADJ.:
  Press to turn key lock on and off.
• PITCH RANGE:
  Press SHIFT + KEY ADJ. to change the PITCH SLIDER range. Select from +/– 8, 16 or 25.

㉕ X ½
Halves the length of the current Auto Loop.

㉖ CENSOR/REVERSE
• CENSOR:
  Pressing censor reverses playback temporarily, when released playback resumes from where the play head would have been if censor was not pressed. It is used to "censor" out portions of a song.
• REVERSE:
  Pressing SHIFT + CENSOR toggles reverse playback mode.

㉗ TAP
Tap in time with the beat to calculate the BPM value for a track.

㉘ AUTO TEMPO/SYNC
• AUTO TEMPO:
  Turns Auto Tempo on and off. This automatically matches the tempo of the track to that of the track loaded to the opposite deck.
• SYNC:
  Press SHIFT + AUTO TEMPO to Beat Sync. This automatically aligns the last transient in the track with the closest one in the opposite playing track.

㉙ TIME/PITCH DISPLAY
• TIME:
  When this button is pressed, the time indicator switches between "ELAPSED" (elapsed time), "REMAIN" (remaining time).
• PITCH DISPLAY:
  Press SHIFT + TIME to switch between displaying the pitch adjustment on the Pitch Indicator on the DN-HC5000 as a percentage or as the adjusted BPM value.
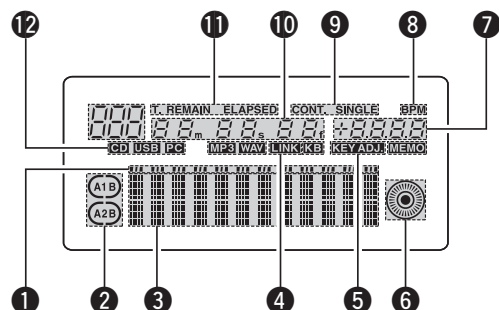
㉚ TITLE/PLAYBACK MODE
• TITLE:
  Scrolls the track's title in the display panel.
• PLAYBACK MODE:
  Press SHIFT + TITLE to toggle between single and continuous playback mode.

2. Display (ITCH)

q **Play Position indicators**
- The white position indicator lights during normal playback, and the position in the track is indicated by the elapsed time.
- If the time to the end of the track is shorter than the specified time, the playback position indicator flashes according to the track's remaining time (EOM) to indicate the end of the track.

w **Loop mode indicators**
- The DN-HC5000 has two loop mode indicators, A and B.
- The A and B indicators light when A and B are set.

e **Character display**
- Displays the track and artist name.

r **LINK indicator**
- This lights when control signal has been sent or received between the DN-HC5000 and an external device.

t **KEY ADJ. indicator**
- This lights when key lock is on.

y **Visual Marker**
- The playback position is indicated according to the playback status of the different decks.

u **Pitch indicator**
- This indicates the playing speed (pitch).

i **BPM indicator**
- This lights when the BPM is displayed in the pitch display section.

o **Play mode indicators**
- These indicate the play mode.
  CONT.:
  Once playback of a track finishes, the next track is played.
  SINGLE:
  Playback stops once the end of that track is reached.

!0 **Minute, second and frame displays**
- This indicates the position currently playing or at which the standby mode is set.

!1 **Time mode indicators**
- The display switches as follows when the Time button is pressed:
  ELAPSED:
  The elapsed playing time from the beginning of the track is displayed.
  REMAIN:
  The track's remaining time is displayed.

!2 **Connection indicators**
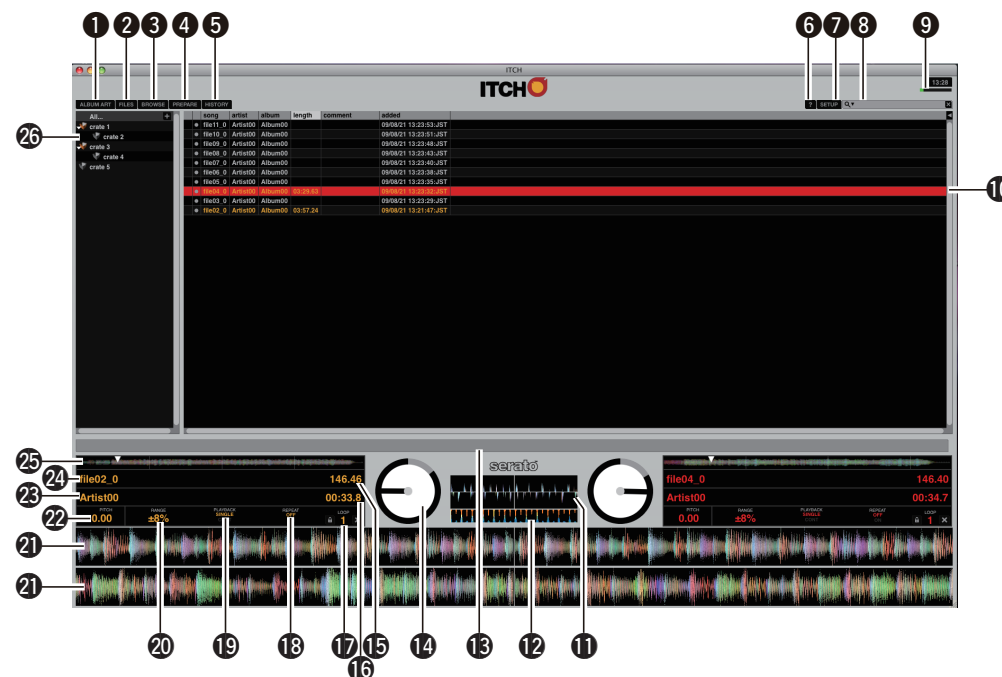- These indicate the connected devices controlled by the DN-HC5000.
  PC:
  The DN-HC5000 is controlling ITCH on a Windows/Macintosh.
  CD:
  The DN-HC5000 is controlling a DN-D4000/D4500/BU4500.

  ✴ Playback of the USB audio signals from a PC continues while in the CD mode.

3. ITCH Software Overview

q **ALBUM ART**
Displays the cover art for the album selected.

w **FILES**
Displays the Files Panel, which enables you to search for tracks on your hard drive.

e **BROWSE**
Displays the Browse Panel, which enables you to browse for tracks by genre, BPM, etc.

r **PREPARE**
Displays the Prepare Panel containing tracks you have pre-selected for your set.

t **HISTORY**
Displays the History Panel, which contains tracks that have already been played.

y **Tool Tips**
Enables or disables Tool Tip Display, which provides a dialog box with a description of a software feature when you place your mouse over it.

u **SETUP**
Shows the software Setup screen.

i **Search**
Searches your Library for the text entered in this field.

o **CPU usage meter**
Shows overall CPU usage for your computer.

!0 **Library**
Displays the songs available in your current selection.

⑪ Beat-Matching Display

Shows transients (usually the drums) to visually aid beat-matching.

⑫ Tempo-Matching Display

Displays tempos of both tracks to visually aid mixing.

⑬ Status Bar

Displays the status of the currently selected item.

⑭ Virtual Deck

Visual representation of the virtual deck.

⑮ BPM Field / Tap

Displays the track's BPM. You can click this field to "tap" out a time, from which the software will approximate and save a new BPM. If there is no BPM for the track, it will display TAP to prompt you to tap out a suggested tempo.

⑯ Track Time Display

Displays the current position of the playhead in the track.

⑰ Loop Number

Displays the number of the currently selected loop.
Clicking the "lock" icon next to it will disable any changes to the current loop.
Clicking the "X" icon next to it will delete the current loop.

⑱ REPEAT

Toggles Repeat Mode "On" or "Off" for the track (when Playback Mode is set to "Single") or Crate (when Playback Mode is set to "Continuous").
Whenever a new track is loaded, this will default to "Off."

⑲ PLAYBACK

Toggles between "Single" and "Continuous" Playback Modes.
Single Playback Mode plays only one track, stopping when it is finished.
Continuous Playback Mode will automatically play the next track in the Crate when one track ends.
Whenever a new track is loaded, this setting will remain the same.

⑳ RANGE

Displays the current range applied to the PITCH SLIDER.

㉑ Waveform

Waveform of the currently loaded track. The top waveform is the left deck; the bottom is the right deck.

㉒ PITCH

Applied pitch offset as a percentage (%) (determined by the position of the PITCH SLIDER).

㉓ Artist Name

"Artist" tag for the current track.

㉔ Track Name

"Title" tag for the current track.

㉕ Track Overview

An overview of the currently loaded track's entire waveform.

㉖ Crates

Displays the list of Crates and Sub-Crates available.

4. ITCH Setup

SOFTWARE INSTALLATION
• Free updates to the ITCH software are available from **http://www.serato.com/itch**
• We suggest you check the website for the latest version before installing.

INSTALLATION Windows
The installer should start automatically, if not;

• **Either**
Insert the Serato ITCH install CD into your computer's CD drive and browse to it using Windows Explorer.

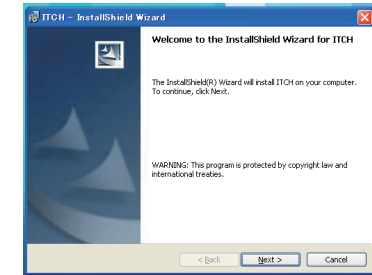• **Or**
Browse using Windows Explorer to the location where the ITCH download installer was saved, unpack the ITCH .zip file and browse to the extracted contents.
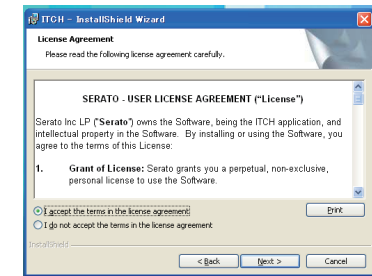
• **Then:**
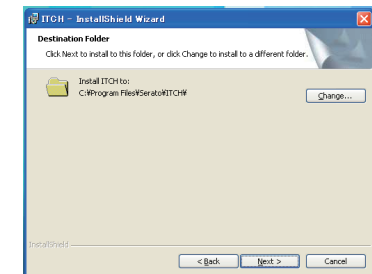Double click the file called "ITCH_installer.exe".

1. The following screen will appear. Click Next.

2. Accept the License Agreement and then click Next.

3. Choose the location you want to install to and click Next.

4. Complete will perform a standard installation. Click Next to continue.
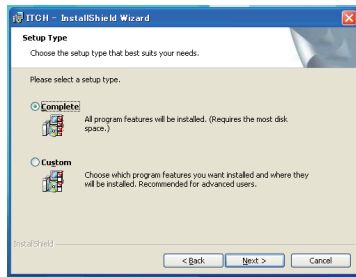
5. Confirm the installation options and click Install.

6. ITCH will now be installed.

7. An confirmation screen will appear when the install is complete.
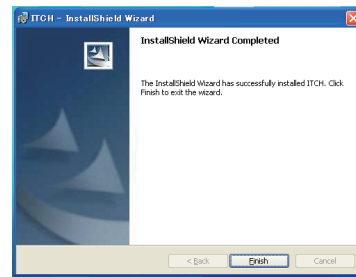
INSTALLATION Macintosh
The installer should start automatically, if not;

• **Either**
Insert the Serato ITCH install CD into your computers CD drive and browse to it using Finder.

• **Or**
Browse using Finder to the location where the ITCH download installer was saved, double click the ITCH .dmg file to mount the image on your system, and browse to that volume.

• **Then:**
Double click the file called "ITCH installer. mpkg".

1. The following screen will appear. Click Continue.

2. Accept the License Agreement and then click Continue.
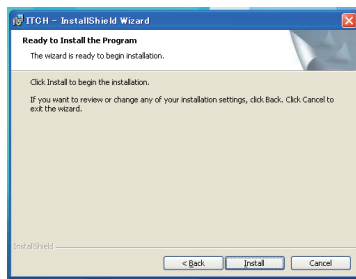

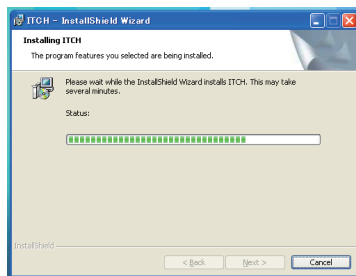3. Choose the hard disk you want to install to and click Continue.

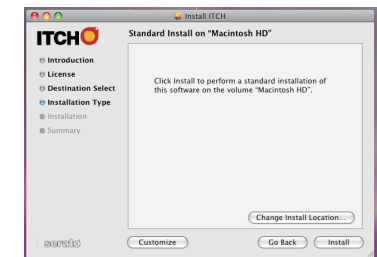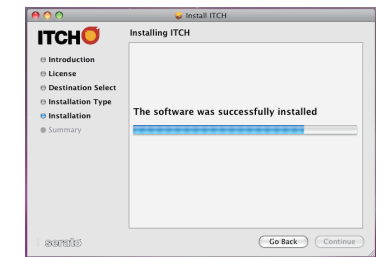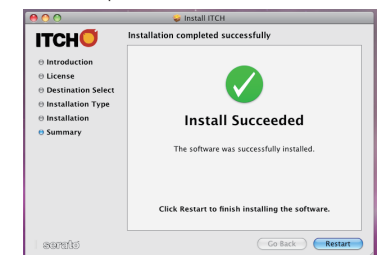4. Confirm the install location and click Install.
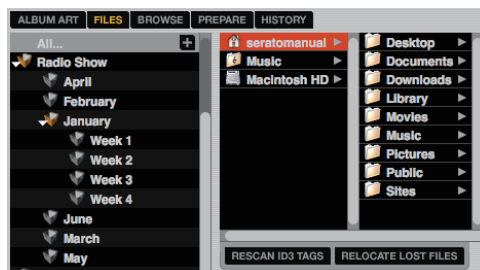

5. ITCH will now be installed.

6. A confirmation screen will appear when the install is complete.

8

5. Importing Music

ADDING FILES TO THE ITCH LIBRARY

There are several ways to add files to your ITCH library:

Press the FILES button on the Denon DJ DN-HC5000 to open the files panel where you can browse your hard drives for music to add. Loading a file to either deck from the files panel will automatically add it to your library.

You can also access the files panel in ITCH using your mouse by clicking on the files button in the main screen. You can drop files and folders directly into the library (including crates) or straight onto either virtual deck.

Dragging a file or folder from Finder or Explorer into ITCH will also add the track to your library.

**TIP: Dragging a folder into the crates view will instantly create a crate**

USING EXTERNAL DRIVES

Any external hard drive connected to your computer will show in the files panel. You can add files to your library from an external drive just like you would do when importing from the internal hard drive of your computer. If the external hard drive is not connected when you run ITCH, any files added from this drive will not display in your library. The library information for files on your external drive is stored on the drive itself. This means if you add tracks on an external drive to your library and then plug that external drive into another machine running either ITCH or Scratch LIVE, the crates and tracks will automatically be visible in the other machine's library.

ADDING YOUR ITUNES LIBRARY

ITCH can import your iTunes™ library allowing you to play your iTunes music and access playlists. To enable this feature go to the setup screen, open the library tab and check the "Show iTunes Library" box.

NOTE: Your iTunes library can be minimized by clicking the iTunes library icon.
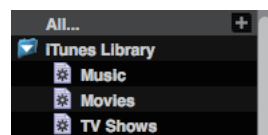
HOW TO GET MUSIC FROM CDS INTO ITCH

ITCH does not have a CD ripping function. We suggest you use a 3rd party application like iTunes to convert your audio CDs into a suitable file type for ITCH. We recommend 320 kbps MP3 files for a good balance of audio quality and file size. ITCH can play Audio CDs direct from your computer's CD ROM or DVD drive, however playback performance can be impeded by the speed of the drive and computer.

NOTE: We recommend ripping your CDs rather than playing from them directly.

SUPPORTED FILE TYPES

.MP3 , .OGG , .AAC , .AIFF , .WAV

Fixed and variable bit rate files are both supported. Tracks protected by DRM are not compatible with Serato ITCH.

6. Preparing Your Files

ANALYZING FILES

Before you play your music in ITCH it is very important to analyze your files first. The analyze files function processes the tracks in your library to detect file corruption, prepares the waveform overview, and if enabled calculates the BPM values.

HOW TO ANALYZE FILES

To analyze your files open ITCH with the Denon DJ DN-HC5000 disconnected. On the lower right side of the main screen you will see the analyze files button. Click this to automatically analyze all the tracks in your library.

TIP: You can also drag and drop individual folders, crates and even individual files onto the button to analyze small or specific groups of files at a time.

To force ITCH to re-analyze all files, hold ctrl while clicking on the analyze files button. Dragging a file, folder or crate which has already been analyzed onto the button will also force ITCH to re-analyze these files.

ABOUT CORRUPT FILES

 If you have a corrupt file in your library, hover your mouse over the status icon for information on what type of corruption was found.

SEE "CORRUPT FILE DESCRIPTIONS AND DIAGNOSES" page 19

SET AUTP BPM

If this option is checked, ITCH will calculate the BPM and add the value to your file during the analyze files process. The range drop down allows you to specify the BPM range of your tracks to avoid half or double BPM values being calculated.

For example: You have a selection of house tracks, that you guess are in the 120 - 130 BPM range. Set the drop down range to 68-135 BPM, setting the lower and upper limits. That way, when ITCH runs into a 120 BPM file, it will know for sure that it is 120 BPM, and not a half value of 60 BPM (60 BPM is lower than the set threshold of 68 BPM).

NOTE: As Auto BPM is part of the analyzing file process, it will not apply to any files that already have already been analyzed. Re-analyze these files to calculate the BPM.

OFFLINE PLAYER

The offline player is available when the DN-HC5000 is not connected and will output through the current default audio device. Load a track to the offline player by dragging and dropping onto the offline player or by pressing shift+left arrow. If the end of the loaded track is reached, the next track in the current playlist will automatically play next.

TIP: The offline player is a useful tool for preparing crates, auditioning tracks, and setting cue and loop points.

7. Library Navigation

The library contains all the music that you have added to ITCH. By using browse and search you can easily narrow down your selection to find the track you want.

TIP: You can change the size of your library text by using the shortcuts ctrl + and ctrl -.

HARDWARE NAVIGATION CONTROLS

The SCROLL KNOB allows you to navigate up and down through the library, BACK and FWD move the cursor between adjacent columns in the browser view. Use the BACK and FWD buttons to move through any browse fields available. Pressing the SCROLL KNOB also does this.

NOTE: Pressing the SCROLL KNOB in the crates list when a crate containing subcrates is highlighted will expand and collapse the subcrates.

MOUSE AND KEYBOARD

As well as using the control surface you can also use the cursor keys
and mouse to navigate the library. The cursor keys work as UP, DOWN,
FWD and BACK. The mouse can select the different modes and make
Genre / BPM / Artist and Album selections.

SEARCHING

ITCH includes a search function to help you find tracks quickly and easily. Just enter text into the search box and ITCH will automatically find as you type.

TIP: Use the keyboard shortcut CTRL + F to jump to the search box. This keyboard shortcut will also take you out of any crate or playlist that you might be in and into your main library, so you can find any track in your collection. If you then click on a crate or playlist, the search query will be cleared. To select which fields the search function will look through, click on the left hand side of the search box. The drop down menu shows which fields are currently being used. Press ESC or the X button on the right of the search box to clear the search.

BROWSING

Press the BROWSE button on the Denon DJ DN-HC5000 to open the browse panel.
Use the SCROLL KNOB to navigate the browse panel. The browse panel will open above the main file library. The filters are GENRE, BPM, ARTIST, and ALBUM.
You can narrow down your search by selecting the specific genre, BPM or name of the track you're looking for, and ITCH will show the results on the main library window. You can move between the four filters with the FWD and BACK buttons, the computer keyboard or by clicking with the mouse.

LIBRARY STATUS ICONS

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

ITCH has detected some corruption in the MP3 file. If possible, re-encode the MP3.*

The track has been imported from the iTunes library.

The track has been imported from iTunes but is corrupt *

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

ITCH is trying to import a track from the iTunes library, but cannot find the file.

Tracks that are read-only have a locked icon.

* SEE "CORRUPT FILE DESCRIPTIONS AND DIAGNOSES" page 19

PREPARE

The prepare panel is an area for holding tracks, much like preparing a set by lifting records partially out of your record bag.

Press the PREPARE button on the DN-HC5000 to open the prepare panel. Navigate through your library and use the ADD button to add tracks to the prepare window. These tracks will be removed from the prepare panel once they have been played. All tracks in the prepare panel will be discarded when you exit ITCH.

TIP: Use the mouse to drag whole crates into the prepare window

8. Playback Control

LOADING A TRACK TO A DECK

Once you have located the track you want to play in the library you can load it using with the Denon DJ DN-HC5000, the mouse or the keyboard.

DN-HC5000:
 LOAD TO A to load to the left deck.
 LOAD TO B to load to the right deck.
 KEYBOARD:
 Shift + Left arrow to load to the left deck.
 Shift + Right Arrow to load to the right deck.
 MOUSE:
 Drag the track to either the left or right virtual deck.

TIP: Use the keyboard shortcuts Shift + Alt + Left Arrow or Shift + Alt + Right Arrow to unload a track from the Virtual Deck.

STARTING PLAYBACK

To begin playback press the PLAY / PAUSE button for that deck on the DN-HC5000. Playback will start from the beginning of the track. Pressing PLAY / PAUSE during playback will pause playback at the current position. Pressing it again will resume playback from that position.

NOTE: When "Play from start" is selected on the setup screen, the deck will try to skip any silence at the start of the track, and play from the start of the audio. See page#?

KEY LOCK

Normally when changing the speed of a track you will hear a change in the pitch of the music. With KEYLOCK on, when you change the speed the pitch will stay the same. This is useful to avoid two tracks sounding out of tune when mixing them together. Press the KEY ADJ button on the DN-HC5000 to turn keylock on and off. KEYLOCK has scratch detection, so that it automatically turns off when scratching for a natural scratching sound.

CENSOR/REVERSE

Pressing the CENSOR button on the DN-HC5000 reverses playback temporarily. When released playback resumes from where the playhead would have been if censor was not pressed. It is used to censor out portions of a track. Pressing SHIFT + CENSOR will toggle reverse playback.

CONTINUOUS PLAYBACK

Press SHIFT + TIME to enable continous playback. With this setting turned on, when one track finishes playing the next track starts automatically. Load from a crate to play through the songs in that crate, or from your library to play through your entire library.

NOTE: Play from start must be checked in the setup screen for autoplay to work correctly.

RELAY MODE

Pressing RELAY on the DN-HC5000 will put ITCH into relay mode, which is an extension of the continuous playback behavior. When relay mode is on the playback mode in the ITCH screen will change to display relay for both decks.

In relay mode when the track on the first deck is nearing the end it will start to fade out and the next track in the crate, playlist or selection will start playing on the other deck. ITCH will continue fading back and forth between tracks until relay mode is switched off or the end of the crate, playlist or selection is reached.

NOTE: The crossfader on your mixer must be set to the middle position for relay mode to work properly so that both tracks are audible.

Press SHIFT + RELAY to change the length of the crossfade between 0, 5 and 10 seconds.

TIP: This is can also be changed in the general tab of the setup screen.

9. Main Screen Control

VIRTUAL DECK

The Virtual Deck shows the speed and position of a track. When a track is loaded to the virtual deck it will change from black to white with a black stripe. As the track progresses, the virtual deck will rotate. The circular progress bar around the edge is a visual representation of the position within the track, and will begin flashing 20 seconds from the end of the track to warn you that the track is nearing its end.

TRACK DISPLAY

When a track is loaded, the track name, artist, length and pitched BPM are displayed in the track title bar. If any of this information is not contained in the file it will not be displayed. Displayed below this are pitch, playback, repeat and auto loop.

The time and remaining time are displayed in minutes and seconds.

The pitched BPM is the recalculated BPM value of the track relative to the position of the pitch slider.

Pitch displays the pitch value relative to the position of the pitch slider.

Playback allows you to select which playback mode you want. Single means once the end of the track is reached you will hear silence. Cont means when the end of the track is reached the next track in the playlist will be loaded and playback will continue.

If repeat is on, when the end of the track is reached the track will return to the start and playback will continue.

Auto loop displays the current loop slot. For more on loops see page 13

TAP TEMPO

If a track has no BPM information stored the tap tempo box is displayed where the BPM usually is displayed in the track title bar. Pressing alt-space bar activates the tempo tapper for the left virtual deck (press alt-space bar a second time to activate the tempo tapper on the right virtual deck). To calculate, tap the space bar along with the beat. After you've tapped the first beat, you can switch to double time tapping, halftime, start of each bar etc. The range is set by the first two taps, after that you can switch to any steady rhythm you feel comfortable with – quarter notes, half note, whole notes. The esc key resets the BPM, the enter key saves the BPM to the track. You can also use the mouse if you prefer by clicking in the tap tempo box and clicking the mouse button in time.

NOTE: You don't need to be at Zero on the pitch slider, ITCH does the math for you.

TRACK OVERVIEW DISPLAY

This area provides a complete overview of the waveform of the track and includes a marker to show the current position within the track. This view is useful for finding transitions within the track. The waveform is colored according to the spectrum of the sound; red representing low frequency bass sounds, green representing mid frequency sounds and blue representing high frequency treble sounds. You can jump to different positions within the track by clicking on the Track Overview display. Grey lines behind the overview show the length of the track; a thin grey line every minute, and a thick grey line every 5 minutes. If you have not analyzed your files the overview will be filled when you load the track onto a Virtual Deck.

TIP: Analyze files before you play.

MAIN WAVEFORM DISPLAY
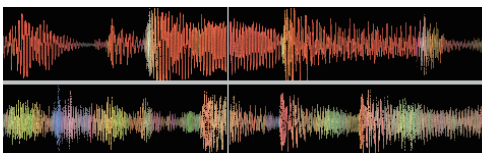
This area provides a close-up view of the track, including color-coding to show the frequency of the sound; red representing low- frequency bass sounds, green representing mid-frequency sounds and blue representing high-frequency treble sounds. You can also switch to a three-band spectrum view by holding the ctrl key and clicking on the waveform. Click and hold on the waveform to 'scrub' or make fine adjustments to your position within the track. The Main Waveform is zoomed around the current position in the track.

TIP : Use the + and – keys to zoom in and out.

TEMPO MATCHING DISPLAY

The Tempo Matching display area provides a helpful tool for beat matching. ITCH detects the beats within the track and places a row of orange peaks (for the track on the left side) above a row of blue peaks (for the track on the right side) in the Tempo Matching display area. When the two tracks are matched to the same tempo, the peaks will line up. This display does not show the relative timing of the beats, only the tempos of the tracks. The peaks will still line up when the tracks are playing at the same tempo, but are out of sync.

BEAT MATCHING DISPLAY
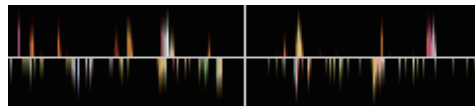
This view shows the position of beats within the track. When beat matching, this view helps align the downbeats of the two tracks. The markers are matched up when the two tracks are beat matched.

Example :
The following is a demonstration of how to use the visual aids to help beat match. In this example, the track that is playing is on the left deck and the track to be mixed in is on the right deck.
1. Start the track playing on the right deck. After a few seconds, blue peaks appear in the Tempo Matching display.
2. Adjust the pitch of the right deck until the blue peaks sit under the orange peaks in the Tempo Matching display. Once they are aligned, the two tracks have the same tempo.
3. Next align the markers in the Beat Matching display. Watch the color of the items passing by in the Main Waveform display. Remember that a kick or bass drum will be red in color, and a snare drum will be green or blue.

This technique will by no means guarantee perfect mixes, but may help to speed up the process of beat matching.

10. Cue Points

The Denon DJ DN-HC5000 features controls for three Cue/Loop slots. To create a cue point, press one of the IN buttons for the deck. The button will light up to show that there is a point set. To delete a cue point hold SHIFT and press the IN button for the point you want to delete. Once a cue point is set, you can jump to it at any time by pressing the relevant IN button. If playback is paused, triggering a cue point will play from that point for as long as the IN button is held down, and will return to the cue point and pause when the button is released. You can also jump to cue points using keyboard shortcuts 1 through 3 for the cue points on the left deck and 6 through 8 for the right deck cue points. If you press and hold these keyboard shortcuts while the track is playing the cue point will be repeatedly triggered, producing a stuttering effect.

TIP: The rate of cue point stuttering is controlled by your operating system keyboard repeat rate settings.

Windows users: Keyboard properties are in the Control Panel.

Mac users: Keyboard and Mouse are in System Preferences.

Your cue points are saved to the file and recalled the next time it is loaded. They are not lost if the file is moved or renamed.

Visual Aid : Cue Point Status
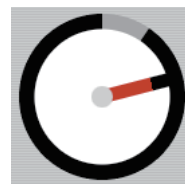
Notice that the stripe on the Virtual Deck jumps to the 12 o'clock position and changes color when you set a cue point - you are at the cue point when the stripe is one solid color and at the 12 o'clock position. As the track plays on beyond the position of the cue point, the colored stripe will shorten by a fifth for each rotation. Likewise, as you approach the cue point, the color will grow by a fifth each rotation.

TEMPORARY CUE
The temp cue function allows you to set a temporary cue point in a track that is not saved into the file. This is useful for finding a point in a track and then being able to easily start again from this point as you get your mix right. While paused you can use the platter to fine tune the playhead placement to ensure your cue point is set exactly on a downbeat.

If no temp cue is set, pressing the CUE button while playback is paused will create one at the current playhead location. Once the temp cue is set, holding the CUE button whilst paused will play from the temp cue point. Releasing the button will pause playback and return to the temp cue. This is good for stuttering in the start of a track.

If you press the PLAY/PAUSE button whilst you are holding down the CUE button, playback will continue when you let both buttons go. This allows you to cue a track in from pause mode and then continue playback once you know the mix is right.

The CUE button can also be pressed whilst the track is playing at any point to return to this point and put the deck in pause. To change the location of the temp cue put the deck in pause with the playhead at a different location and press the CUE button again.

The temp cue point is also useful to repeatedly start from a preset point in the track. This allows you to easily drop in a few times until you get it right.

11. Looping

Once you have set some cue points, you can add outpoints to them to turn them into loops. Pressing the OUT button once will set the loop outpoint and turn LOOP on. Both the IN and OUT buttons will light to indicate that you are in a loop and playback will loop between the cue point and the outpoint. Pressing the OUT button a second time will turn LOOP off. Holding SHIFT and pressing the OUT button will delete that outpoint. By holding the OUT button and moving the platter you can adjust the position of the outpoint to fine tune your loop. By holding the OUT button and pressing the IN button at the same time, the playhead will jump to the outpoint and turn LOOP off. Loop areas show up green in the main waveform display.

AUTO LOOPING

Auto Looping allows you to create loops that will automatically be in time with the music. This is great for creating loops on the fly and other creative mixing techniques. The loop length can range from 1/32 to 32 beats and is calculated using the track's BPM value (tracks must have a BPM value set for auto looping to be available). Choose the loop length using the X 1/2 and X 2 buttons on the DN-HC5000. The current auto loop length is displayed beside the virtual deck. Press the AUTO LOOP button to activate a loop of the set length, which is snapped to the beat closest to the playhead. The length can be adjusted while the loop is active using the X 1/2 and X 2 buttons, and the loop can be disabled by pressing AUTO LOOP button once more.

LOOP ROLL

Loop roll performs a standard auto-loop, but when the loop is turned off the playback position is returned to the position where it would be if it had not entered the loop (much like censor). The range of values available for loop roll are 1/32 through to 32 bars. Use short loop lengths to create "stutter" type effects. The other difference between loop roll and standard autoloop is the 'roll' button is momentary. The loop is engaged when the button is pressed down, and disengaged when the button is released.To activate loop roll, hold down SHIFT and AUTO LOOP, the loop roll will activate whichever loop length is visible on screen.

12. Mixing

In chapters 4.7 and 4.9 we covered finding, loading and playing tracks. Once you have a track playing, the next step is to mix it into another track.

FINDING THE NEXT TRACK

First you'll need to find the next track to mix in. Browse your library to find a suitable track.

TIP: The library's BPM column is useful for finding a track with a similar tempo to the current track.

LOADING IT TO THE DECK

Load the next track to the right virtual deck by pressing the LOAD TO A or LOAD TO B buttons on the Denon DJ DN-HC5000 or using the mouse or keyboard shortcut (CTRL + left arrow to load onto the left deck, CTRL+ right arrow to load onto the right deck).

FINDING THE RIGHT PART OF THE TRACK

When the track is paused the platter is always in Jog Mode mode. This allows you to cycle though and find the point you want the track to start.

TIP: The first kickdrum is a good place to start from for many genres.

TIP: Set a cue point at the part of the track you want to start your mix from so you can return to it easily and save it for next time.

GETTING THE TRACKS IN TIME

The playback speed of the track is controlled by the pitch slider. The range of the pitch slider is set by default to ± 8% from the track's initial tempo (assignable to ± 16% or ± 25% by pressing SHIFT + KEY ADJ on the DN-HC5000). Moving the slider up will slow the track down, moving it down will speed the track up. This allows you to take two tracks that are of different tempos and mix them together in time. The pitched BPM and the pitch % are shown in the ITCH track information display. The simplest way to adjust the speed to match the other track is to move the pitch slider until the BPM value is the same as the track that is already playing. By repeatedly playing from the temp cue point and fine tuning the pitch slider you can get the tracks playing at exactly the same speed.

NOTE: ITCH can play your music at a large range of speeds with or without keylock, for more information see Keylock page 11.

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

AUTO TEMPO

To simplify getting your tracks in time, ITCH features auto tempo. Pressing the AUTO TEMPO button for a deck will disengage the pitch slider on that deck and automatically match it's tempo to that of the other deck. Auto tempo requires a BPM value to be set for each track to work. While auto tempo is on, the AUTO TEMPO button will light for that deck.

Whilst auto tempo is engaged, the playback speed is controlled by the pitch slider of the deck that doesn't have auto tempo turned on. Both decks will follow any changes you make to this deck. If you have both decks in auto tempo mode,they will follow a "ghost tempo" which is the tempo that you were at when you started using auto tempo.On the ITCH track information display there is a "pitch navigator"that shows you how far away the slider is from the current auto tempo value. This can be used to get the pitch slider into the right position before switching back to manual tempo mode.

DROPPING IT IN

The platters on the DN-HC5000 have two modes. Use the Jog Mode button to choose between either scratch mode or nudge mode.

Selecting scratch mode with the Jog Mode button will allow you to press down and hold the platter to stop playback just like with a record. Moving the platter will scratch backwards and forwards through the track as if you were using vinyl.

In nudge mode, moving the platter backwards or forwards will temporarily bend the speed of the track faster or slower. This is for when you have two tracks mixed together but they are not quite in time. By "nudging" the platter back and forth you can ensure that the timing is aligned.

TIP: You can nudge in scratch mode by pressing the PITCH BEND + and - buttons on the DN-HC5000.

BEAT SYNC

Beat Sync is an advanced feature that will automatically align the transients (usually the drums) in the two playing tracks. If you have dropped your next track in but it's not quite in time, by pressing SHIFT + AUTO TEMPO you can perform an automatic beat sync. When the current track is playing on the left side press SHIFT + the right hand AUTO TEMPO button. This will snap the right track's beats to be in time with the left hand side. Beat Sync works by snapping the two closest transients together, this means the timing of the two tracks has to be close before Beat Sync will work.

13. Organizing Your Library

ITCH can support an unlimited number of tracks – the only limitation is the size of the hard drive of your computer. A number of features are included to help you to keep your music organized and find tracks quickly and easily.

MAIN LIBRARY VIEW

CRATES

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

For example, you could organize your tracks into the following crates, where any one track would be filed in more than one crate.
• Hip Hop
• French Hip Hop
• UK Hip Hop
• Instrumental Hip Hop
• Old School Hip Hop
• Hip Hop Lps

To make a new crate, click the + button. To rename a crate, double click the crate name. You can change the order of tracks within a crate by dragging them up or down.

TIP : The protect library option in the setup screen applies to removing, editing and renaming crates. Check this option to prevent changes to your crates. see page 17

SUBCRATES

You can drag and drop crates into other crates to make subcrates. If you drag a crate to the very left of the crate panel, it will stay in the top level of the crate structure. If you drag the crate a little to the right, onto the name of another crate, it will make the crate you are dragging a sub crate of this crate. Subcrates can be opened and collapsed, allowing you to have a large number of crates, whilst making them easy to browse.

SETTING UP COLUMNS

The track information display area can be customized to display any of the columns listed below.
• album
• artist
• bitrate
• BPM
• comment
• composer
• filename
• genre
• grouping
• key
• label
• length
• location
• remixer
• sampling rate
• size
• track
• year

Clicking on the triangle at the top right of the library will show the list so you can turn fields on and off. You can resize columns by grabbing the edge and dragging to the width you want.

EDITING ID3 TAGS

Much of the information associated with each track can be edited from within ITCH. Double click on the field within the main library to edit it. Filename, length, size, bit rate and sampling cannot be edited, this information is saved in the file itself. Note that the protect library option in setup must be unchecked to allow edits.

TIP: Use the keyboard shortcut CTRL + E to edit text. Hold down the ctrl key and move with the arrow keys to change to a different field while staying in edit mode. When you have more than one track selected, editing tags changes all the tracks in your selection.

TIP: The second column in the library is the label color for that track. Click it to bring up a color palette, and customize the virtual deck for that track.

NOTE: Tracks that are read-only have a locked icon.

ALBUM ART

MP3 files can contain album art. To display this album art, click the SHOW ALBUM ART button. There are many third party applications available for adding album art to MP3s.

LIBRARY AUTO-BACKUP

ITCH will a create folder on your hard disk called Serato where it stores your library database, crate information and other information it needs. The Serato folder is located in the My Music folder on Windows and in the Music folder on Mac.

ITCH will also create a Serato folder on any external drive that you have added files from into the library.

When you first exit ITCH you will be prompted to backup your library. This creates a copy of the Serato folder on your system drive and on any connected external drives containing a Serato folder. The backup folder is called SeratoBackup. After the initial backup, you will be prompted to backup again if the last backup on that drive is older than a week or if no backup exists. ITCH will only keep ONE backup at a time, so each time you backup ITCH will overwrite the previous backup.

NOTE: If you have a previous version of ITCH or Scratch Live installed the library folder will be called ScratchLIVE not Serato.

LIBRARY MANAGEMENT

RESCAN ID3 TAGS   RELOCATE LOST FILES

RESCAN ID3 TAGS

The Rescan ID3 tags button is found in the Files panel and re-reads file tags for the entire library. Use this function if you have edited or modified file tags in other software.

TIP : Rescanning the tags is a handy way to identify any files that can't be found, for example, if the files have been re-named or moved. These tracks are then shown as red in the library pane, with a question mark icon in the status column.

RELOCATE LOST FILES

The Relocate Lost Files button is located in the file panel. If you've moved the location of files which are already in your library, they will show up as not found and be displayed in red. Drag and drop a folder from Finder (Mac) or Explorer (Windows) onto the relocate lost files button to search it, and any sub-folders, for files currently marked as not found in your library. Doing this will update the database with their new location.

NOTE: Clicking the relocate lost files button will search all attached drives for missing files and can take some time.

SCRATCH LIVE COMPATIBILITY

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

14. History

Pressing the HISTORY button on the Denon DJ DN-HC5000 opens History panel. This is a complete log of all the tracks you have played (in sessions) and allows you to export your ITCH session information as a data file. Each session is catalogued by date and time. Using the drop down arrow, you can navigate to and view detailed information of any previous sessions. There are columns for the period (i.e., date of session), name of track and artist name.

In addition, these other categories listed below will give you more detailed information about your sessions:

START SESSION   END SESSION   INSERT TRACK

Start Time - When viewing a track row, the start time of the track is displayed. When viewing a session row, the start time of the session is displayed with the date (in real time value).

End Time - When viewing a track row, the end time of the track is displayed. When viewing a session row, the end time of the session is displayed with the date (in real time value).

Playtime - When viewing a track row, the total played time of the track is displayed (i.e., 00:03:00). When viewing a session row, the total elapsed time of the session is displayed with date (i.e., 10/09/08 01:38:16).

Deck - The virtual deck the track was played on will be displayed under the deck column. In the track row, either left or right is displayed. The offline player will be listed as offline.

Notes - Use this field to list particular information about your tracks and each session (i.e.,note how you transitioned from one track to another). Start Session / End Session - To start or end a session, click the corresponding button. Insert Track - If you wish to add information for tracks not played in ITCH intoyour session (e.g., if you played one of your favorite vinyl or cd), select the track you want to insert after and click the insert track button. Double click the inserted track fields and edit your information accordingly. (Note that when exporting an m3u playlist [see exporting below] "inserted tracks" will not be present.)

Export - You can export each session as a data file using the export button. Select a session, then choose your preferred file format, and click export. There are three possible export formats:

• text - to create a simple text file with your session information contained within.

• csv - to create a file for use in spreadsheet software.

• m3u - to create a playlist file, which can be imported into media players. Note that an m3u does not contain audio itself, it only points to the location of your audio files. (Inserted tracks within sessions will not be included in an m3u playlist.)

TIP: To make a new ITCH crate containing your session information, select a session and drag it to the + plus crate button. (This will automatically name the crate with the session date).

Listing Behavior - only the tracks you actually play are listed in history. This is done using an A-B algorithm, meaning a track on deck A is only listed once the track on deck B has been changed or ejected. You can choose to show tracks which you have auditioned, but not actually played, by checking the show "unplayed tracks" box. The session will then also list these tracks in grey, along with actual played tracks.

Alternatively, you can mark or unmark tracks as played manually. Select a track (or a group of tracks) and click the mark played / mark unplayed button. This may be useful if you play a track off regular vinyl or CD - breaking the A-B algorithm). tracks that you have played are marked as green in your library. Click on the button marked 'clear' to reset the list of recently played tracks and turn the color of your library back to white.

15. Additional Setup

The setup screen allows you to customise elements of ITCH. Click the associated tabs to switch between four groups of options; Hardware, Playback, Library and Display.

The version and build number of ITCH are displayed in the lower left hand corner of the setup screen.

```
0x00010003
0x0b50c13c
Version 1.1.0  (11025)
CHECK FOR UPDATES
```
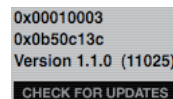
Also located here is the 'check for updates' button. Click this to go online and see if there is an updated version of ITCH available.

NOTE: You must be connected to the Internet for 'check for updates' to work.

HARDWARE OPTIONS
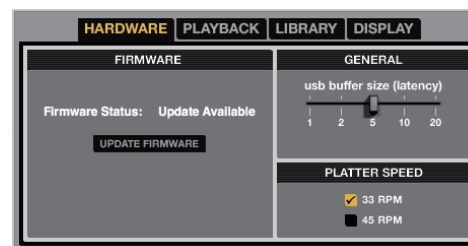
FIRMWARE
Click the 'update firmware' button to update your firmware if any are displayed as available.

GENERAL

USB BUFFER SIZE (LATENCY)
ITCH processes audio data in small chunks. When smaller chunks are used, the movement of the platter is translated into audio more often which results in a lower overall system latency. However, this requires more processing power and therefore a higher CPU load, so lower buffer size settings require a more powerful computer to produce uninterrupted audio. If you want tighter control, you should try decreasing this setting, on the other hand, if you experience audio dropouts, you need to increase this setting (or use a more powerful computer).

PLATTER SPEED
Select to change the virtual deck speed to 33RPM or 45RPM.

PLAYBACK OPTIONS

GENERAL

PLAYBACK KEYS USE SHIFT
With this option on, all cue point, loop, and general playback keys on the computer keyboard require shift or caps lock to function.

LOCK PLAYING DECK
When this option is checked, you can only load a track to a deck if it is paused.

ON SONG LOAD

PLAY FROM START
Positions the playhead at the start of each track when loaded. If this setting is not enabled, freshly loaded tracks will continue to play from the point the last track was at. This option is on by default. This option is overridden by 'Instant Doubles' and 'Play from First Cue Point' options.

NOTE: When "play from start" is selected on the setup screen, the deck will try to skip any silence at the start of the track, and play from the start of the audio

INSTANT DOUBLES

This allows you to quickly match the playhead position of the same file on both decks. With this option set, when you load a track on one virtual deck that is already loaded on the other virtual deck (it must be the same file), the playhead will jump to the position of the track that was loaded first, with the keylock state and looping settings copied. This setting overrides the play from start and play from first cue point options.

PLAY FROM FIRST CUE POINT

Enable this option to start all tracks from the first cue point when loaded. This setting overrides the play from start option. If the track has no cue points set it will play from the start.

BRAKING

This controls how fast the track stops when the deck is paused. Counterclockwise, the stop is immediate. Clockwise rotation increases the stopping time from a finger grab all the way to a slow turntable power-down.

LIBRARY OPTIONS
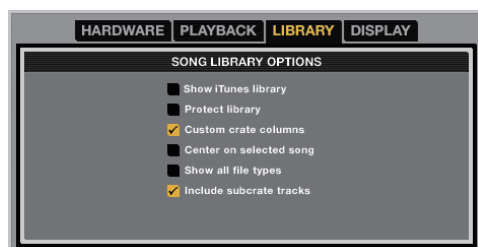
SHOW ITUNES LIBRARY

Shows the current default iTunes library and iTunes playlists in the ITCH library.

TIP: The iTunes library can be minimized by clicking the small triangle in the blue iTunes folder icon.

NOTE: ITCH cannot play files that have been protected by Digital Rights Management systems, such as those previously sold through the Apple iTunes Music Store (pre iTunes plus).

PROTECT LIBRARY

Uncheck this setting to remove tracks and crates from your library. Enable to lock your library and prevent accidental track or crate deletion. Enabling this setting will also lock all file tags and crate names, so that no text can be changed.

CUSTOM CRATE COLUMNS

Check this option to set custom column views for each crate and playlist. When the option is off (default), all crates will share the same column configuration as the 'All...' crate.

CENTER ON SELECTED SONG

With this option on, scrolling up and down in your library holds the selected track in the middle of the library panel.

SHOW ALL FILE TYPES

Enable this option to show all files when importing tracks into your library. If this option is not selected, only files that ITCH can play will be displayed.

INCLUDE SUBCRATE TRACKS

Displays the tracks from any subcrates in their parent crate. With this off, browsing in a crate will not show tracks that are in any subcrates of that crate.

DISPLAY OPTIONS
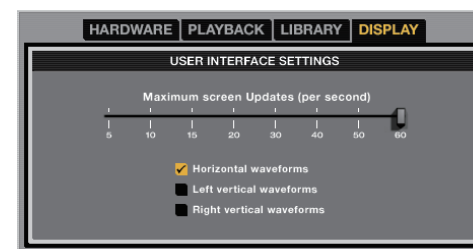
MAXIMUM SCREEN UPDATES

This slider allows you to lower ITCH's screen refresh rate and potentially use less CPU. Users with slower computers or those running a recording program at the same time might like to do this if they are having performance issues. The default setting is 60 Hz, or refreshed 60 times per second. This setting applies to the entire ITCH user interface; the Virtual Decks, the Waveforms, the library, and the setup screen.

HORIZONTAL WAVEFORMS

Display the main waveforms horizontally across the bottom of the screen.

LEFT VERTICAL WAVEFORMS

Display the main waveforms vertically on the left side of the screen.

RIGHT VERTICAL WAVEFORMS

Display the main waveforms vertically on the right side of the screen.

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16. Troubleshooting

The following suggestions may help you if you are experiencing poor performance with ITCH.

• Check for updates using the CHECK FOR UPDATES button in the setup screen or by visiting http://www.serato.com/itch

• Close all other open programs

• Disable wireless networking devices

• Disable bluetooth devices

• Disable antivirus software

• Disable screen savers

• Disable sleep mode

• Increase the USB buffer size

• Connect the Denon DJ DN-HC5000 directly to a USB port on your computer, not via a USB hub

• Try all USB ports, some work better than others

• Unplug other USB devices

• Run your laptop connected to power supply

For more troubleshooting help visit http://www.serato.com/itch

17. Support

Software Updates and Online Support
For ITCH software updates and online support visit the ITCH website:

http://www.serato.com/itch

To help us with your support enquiry please have the following information available.

• ITCH software version

• Operating System

• Computer model and specifications

Official Support Chanel
For Denon DJ DN-HC5000 hardware support and customer service, included warranty cover, please check the information here: http://www.serato.com/support/denon

18. Corrupt Files

Corrupt file: This MP3 contains invalid frames.
This MP3 contains frames which do not conform strictly to the official MP3 specification. ITCH can not be certain that this file will play back 100% accurately.

Corrupt file: This file contains corrupt frames that may result in audible glitches.
This file contains two or more contiguous corrupt frames. Since corrupt frames are replaced with silence, this could result in what might sound like an audio glitch

Corrupt file: This file has been split. You should check the beginning for audio glitches.
The first MPEG audio frame in this file refers to audio that should be present before it but is not. This is usually the result of incorrect MP3 editing. Since a corrupt frame is replaced with silence and most songs start with silence, the resulting silence might not be noticeable. All the same, listen to the beginning of the song, just to be sure.

Corrupt file: This MP3 contains frames with corrupt data.
Decoding of an MPEG audio frame failed. This means that the frame contained invalid data. As usual with corrupt frames, this frame will be played as silence.

Corrupt file: This MP3 lost syncronization between the frame index and the frames.
ITCH is reading an old overview of an MP3 that has been edited in a 3rd party editing program. Re-building the overviews for the affected files usually corrects this error.

Corrupt file: This file contains invalid audio data.
ITCH encountered a lot of invalid data while looking for audio in this file. This message alerts you to the fact that the file you're trying to play contains corrupt data. This may, or may not, affect playback.

Corrupt file: This MP3 contains no valid frames.
No audio could be found in this file, which means it is completely unplayable as far as ITCH is concerned. Please make sure this really is an audio file.

Unsupported file: This MP3 contains multiple layers.
While scanning this file, ITCH found frames belonging to multiple MPEG layers. ITCH does not support MP3s that contain frames from multiple layers – some frames may be output as silence.

Unsupported file : This file is more than 2GB in size.
Self explanatory. At the moment, ITCH does not support files that are 2GB in size (or larger).

Unsupported file : This file has data blocks greater than 2GB in size.
This file contains chunks of data that are larger than 2GB. ITCH does not support files that are more than 2GB in size.

Corrupt file: This WAV contains no valid chunks.
This WAV file contains no recognizable WAV data. It is quite possible that this might not be a WAV file.

Unsupported file: This file's data is not in PCM format.
WAV files can contain data in several formats. ITCH only supports WAV files that contain data in the PCM format.

Unsupported file: This file has a sampling rate greater than 48kHz.
ITCH does not support sampling rates greater than 48 kHz. If you see this message, the simplest approach is to re-sample the audio at 48 kHz and re-save the file.

Unsupported file: This file uses more than 24 bits per sample
ITCH supports a maximum of 24 bits per sample of audio data.

Corrupt file: This WAV is incomplete.
ITCH expected more data in the file, but found none. This could be because the file was incorrectly truncated or because the data in the file is corrupt, causing ITCH to incorrectly estimate the amount of data present in the file.

Corrupt file: This file contains corrupt blocks.
This file contains blocks of data that report their size to be zero. This message was inserted to identify files that might cause lockups on previous versions of ITCH.

Corrupt file: This song contains no audio data.
ITCH could not find any audio in this file. Please check to make sure this file contains audio in a format that ITCH supports.

Corrupt file: This song contains invalid samples.
This file contains samples of audio that are too small to represent accurately and will therefore be truncated to zero. This should not result in any audible audio artifacts, but could cause audio dropouts on earlier versions of ITCH.

4 CD PLAYER OPERATION

1. Front panel (CD Player)
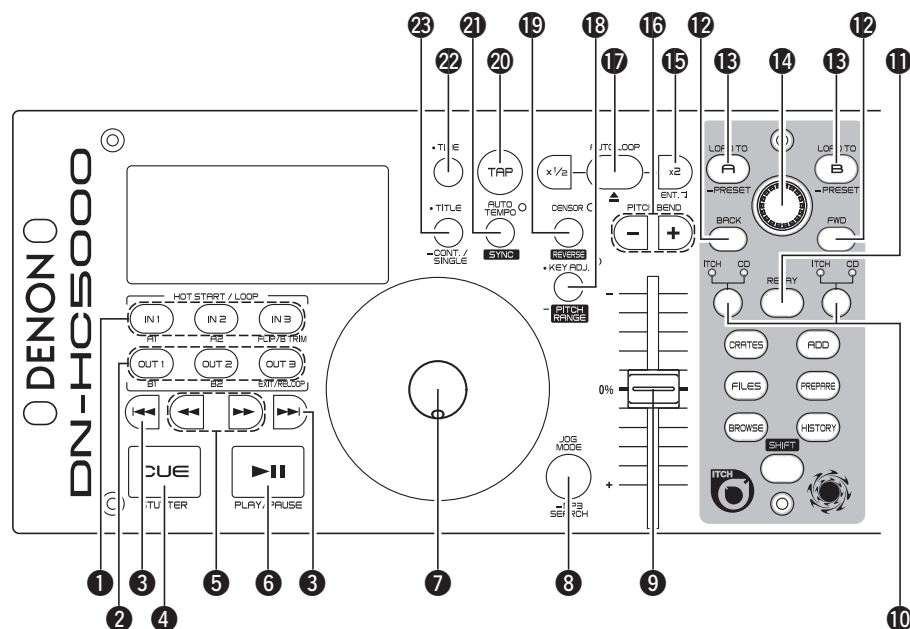
CAUTION:
Note that there are many buttons working two different function selected by short time pressing or long pressing (1second or more). The " ● " mark indicates short time press function and " ▬ " mark indicates long time press function.

❶ • A1, A2
Using this button you can create starting point for Hot Start, Seamless Loop and Stutter.

• FLIP / B TRIM
Press this button to switch between the loop mode/hot start mode and stutter mode.
After setting the B point, the B TRIM MODE can be selected.

❷ • B1, B2
Use this to set the B point for to create a Seamless Loop after the A point has been set.

• EXIT / RELOOP
Use this to exit or return back again to Seamless loop playback.
You can add variety to looping with this function.

❸ ⏮ ⏭ TRACK (FILE) SEARCH
Select the Track/File or Preset Parameters.

❹ CUE/STUTTER
• Pressing this button in play mode will force the file back to the position which playback started.
• In Cue mode, by pressing the CUE button makes a Stutter sound from the Cue point. This is called Stutter play. (Stutter)

❺ ◀◀ ▶▶ FAST SEARCH, QUICK JUMP
• **QUICK JUMP:**
When one of these buttons is tapped shortly, the playback position jumps in the reverse (◀◀) or forward (▶▶) direction.
• **FAST SEARCH:**
When one of these buttons is pressed and held in, the disc is fast-searched in the reverse (◀◀) or forward (▶▶) direction.

❻ PLAY/PAUSE
This button will start or pause playback.

❼ JOG disc
Use this vinyl JOG for manual search, Pitch Bend operations.

❽ JOG MODE
Select from Bend mode or Manual Frame Search mode.

❾ Pitch Slider
• Use this slider to adjust playing speed.
• The playing speed decreases when sliding upwards and increases downwards.

❿ ITCH / CD
When ITCH/CD button is pressed and select ITCH, refer to the ITCH's manual.
When ITCH/CD button is pressed and select CD, refer to the BU4500 function.

⓫ RELAY
You can turn on and off RELAY PLAY mode.

⓬ FWD / BACK
Does not function.

⓭ LOAD TO A/B / ▬ PRESET
• **MEMO:**
The MEMO mode starts when this button is pressed once in the CUE mode.
• When the button is pressed for more than 1 sec, the PRESET mode starts.

⓮ PARAMETERS knob
Does not function.

⓯ X2
Set the selected parameters.

⓰ PITCH BEND
• While pressing these buttons will change main playing speed temporarily.
• When release button, playing speed returns to the previous speed.

⓱ AUTO LOOP
• **Disc holder Open/Close button**
Press this button to open and close the disc holder.
The disc holder will not open during playback. Stop playback before pressing this button.

⓲ KEY ADJ. / ▬ PITCH RANGE
• **Pitch RANGE:**
Press this button for more than 1 sec to select the pitch range.

⓳ CENSOR REVERSE/BRAKE
When this button is pressed you can turn the Brake mode on and off.

⓴ TAP
Does not function.

㉑ AUTO TEMPO
Press this button to switch the REPEAT function ON/OFF. See the D4000 operating manual for details.

㉒ TIME / ▬ TOTAL
• **TIME:**
When this button is pressed, the time indicator switches between "ELAPSED" (elapsed time), "REMAIN" (remaining time).
• **Total:**
When this button is pressed for more 1 second, you can display the total time.

㉓ **TITLE / ▬ CONT./SINGLE**

• **TITLE**
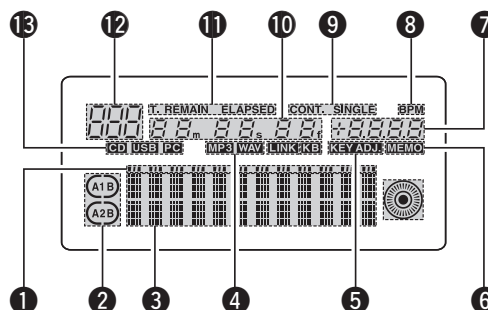 • **CD TEXT:**
    CD text is displayed.
  • **MP3:**
    The ID3 tag information switches each time the button is pressed.

• **CONT./SINGLE**
  A short tap of this button will toggle between 3 possible END modes for playback CONT. (continue: plays all files) SINGLE (stops playing and ReCUE's back to your original set point), PLAYLOCK.

2. Display (CD Player)

❶ **Play Position indicators**
  • The white position indicator lights during normal playback, and the position in the track is indicated by the elapsed time.
  • If the time to the end of the track is shorter than the specified time, the playback position indicator flashes according to the track's remaining time (EOM) to indicate the end of the track.

❷ **Loop mode indicators**
  • The DN-HC5000 has two loop mode indicators, A and B.
  • The A and B indicators light when A and B are set.

❸ **Character display**
  • This block displays various operational information, text message, etc.

❹ **File data indicators**
  • These indicate the type of file being played.

❺ **KEY ADJ. indicator**
  • "KEY ADJ." lights when in the key adjust mode.

❻ **MEMO indicator**
  • The "MEMO" indicator lights when there is memo data stored for the track that is currently playing or set to standby.

❼ **Pitch indicator**
  • This indicates the playing speed (pitch).

❽ **BPM indicator**
  • This lights when the BPM is displayed in the pitch display section.

❾ **Play mode indicators**
  • These indicate the play mode.
    CONT.:
    Once playback of a track finishes, the next track is played.
    SINGLE:
    Playback stops once the end of that track is reached.

❿ **Minute, second and frame displays**
  • This indicates the position currently playing or at which the standby mode is set.

⓫ **Time mode indicators**
  • The display switches as follows when the Time button is pressed:
    ELAPSED:
    The elapsed playing time from the beginning of the track is displayed.
    REMAIN:
    The track's remaining time is displayed.
    T.ELAPSED:
    The playing time from the first track on the disc is displayed.
    T.REMAIN:
    The remaining time of all the tracks on the disc is displayed.

⓬ **Track indicator**
  • This indicates the number of the currently playing track.

⓭ **Connection indicators**
  • These indicate the connected devices controlled by the DN-HC5000.
    PC:
    The DN-HC5000 is controlling the ITCH on a Windows/Macintosh.
    CD:
    The DN-HC5000 is controlling a DN-D4000/D4500/BU4500.
  ✱ Playback of the USB audio signals from a PC continues while in the CD mode.

3. Basic Operation (CD Player)

This section describes the basic operations when connected to a DN-D4000/D4500/BU4500.

PLAY and PAUSE

PLAY/PAUSE

• Each press of the PLAY/PAUSE button switches between playback and pause. PLAY/PAUSE button illuminates solid green during playback and flashes in pause.
• When the PLAY/PAUSE button is pressed during play, the DN-D4500 pauses playback at that point. Press PLAY/PAUSE button once again and playback resumes.

PLAY and Cue

CUE
STUTTER

• When the CUE button is pressed during playback, the track/file stops and returns to the original position of which playback started from, the (Cue point). This function is also called Back-Cue.
With the Back-Cue function, you can start from exactly same position.
The CUE button illuminates solid red when DN-D4000/D4500/BU4500 is ready to start playback.

Select the file
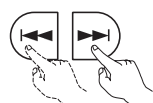
• Press |◀◀ to return to the previous file.
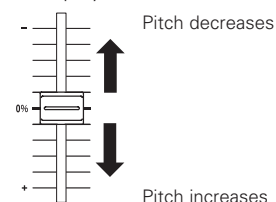Press ▶▶| to move ahead to the next file.

Adjusting the pitch
With Pitch slider you can adjust the playback speed (Pitch).

1. Press the PITCH button to light the PITCH LED.

2. Move the Pitch Slider to adjust the pitch.
The current pitch setting is displayed on the display.

Pitch decreases

Pitch increases

3. The DN-D4000/D4500/BU4500 has several pitch ranges.
When the RANGE button is pressed for more than 1 sec, the pitch range can be selected with the PARAMETERS knob.


• When the PARAMETERS knob is pressed the pitch range is entered and the pitch range selection mode is cancelled.

Pitch Bend
With PITCH BEND function you can change pitch temporary. DN-D4000/D4500/BU4500 has two ways for this function PITCH BEND buttons and JOG disc.

1. [PITCH BEND +/– buttons]
• Press the PITCH BEND button for momentary change of pitch.
While holding these buttons down, the pitch continues to change up to the limitation.
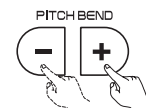
PITCH BEND

• After releasing the PITCH BEND buttons, playback pitch returns to slider setting.

2. [JOG disc]
• The playback speed can be changed by turning JOG disc during playback.

Power on play
1. When the DN-D4000/D4500/BU4500's "Power On Play" presetting is set to "ON", playback starts from the beginning of the disc when the power is turned on.
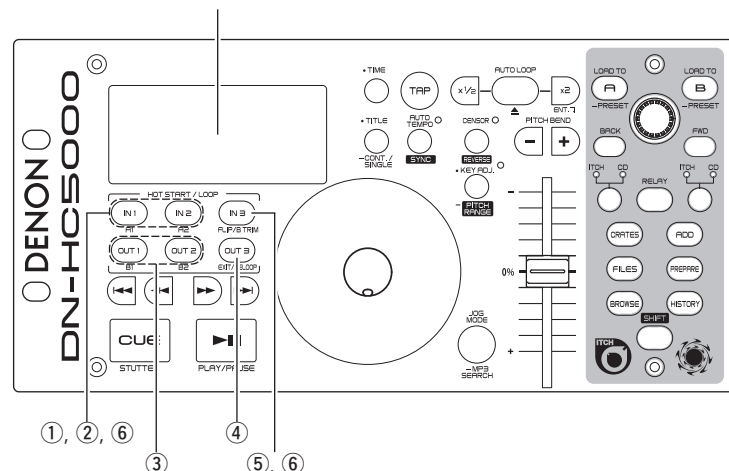
Relay playback
For instructions on relay playback, refer to the manual of the DN-D4000/D4500/BU4500.

NOTE:
Some features will not be compatible with the older the DN-D4000.

4. Seamless Loop/Hot Start/Stutter/Trim

Operation display
(refer to the section describing the display)

①, ②, ⑥   ④
③   ⑤, ⑥

1. Setting the A point
(loading the Hot Start data)

① Press the A1 or A2 button to set the A point and Hot Start data loading starts.
• A1 and A2 buttons can be used separately for each Hot Start.
• When an A point is set, the corresponding A button and " C " display light and that button is set to the Hot Start mode.
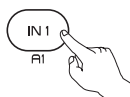
2. Starts Hot Start

② When A1 or A2 button is pressed, Hot Start playback starts from the corresponding A point.
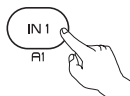
3. Setting the B point for Seamless Loop

③ When the B button is pressed after setting the A point or after starting Hot start playback, the B point is set and Seamless Loop playback starts from the A point.
• The B button works with respect to the A point operated before the B button was pressed.
• If the B button is pressed during Seamless Loop playback or after EXIT playback, the B point moves to the point at which the button was pressed.
• When the B point is set, the B and " Ɔ " displays light.

4. Playing Seamless Loops

• When the B1 point for A1 is detected after playback started from A1 point, playback returns to A1 point with seamless. While A1 to B1 looping, B2 point for A2 ignored.
• When the B2 point for A2 is detected after playback started from A2 point, playback returns to A2 point with seamless. While A2 to B2 looping, B1 point for A1 ignored.

5. Exit/Reloop

④ In Seamless Loop playback, you can force exit from or return to the loop.
EXIT:
While the Seamless Loop playback, press the EXIT/RELOOP button to exit from loop. DN-D4000/D4500/BU4500 continues playback after the B point.
RELOOP:
When the EXIT/RELOOP button is pressed after exit the loop, Seamless Loop playback resumes from the A point.

6. Stutter

• A1 and A2 points can be also used for Stutter playback.
⑤ To enable stutter playback, press FLIP button for A1/A2 buttons, then " C " display turns off.
Press the FLIP button to switch between the Hot Start/Seamless Loop and Stutter modes.

7. Clear the A1/A2 point

⑥ While pressing the FLIP button, press the A1 or A2 button to clear the corresponding A and B points.
Or press the FLIP button for more than 1 sec to clear both A1 and A2 points at once.
Quickly pressing the "FLIP" button first and then A1, A2 or B buttons will clear these points individually.
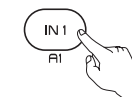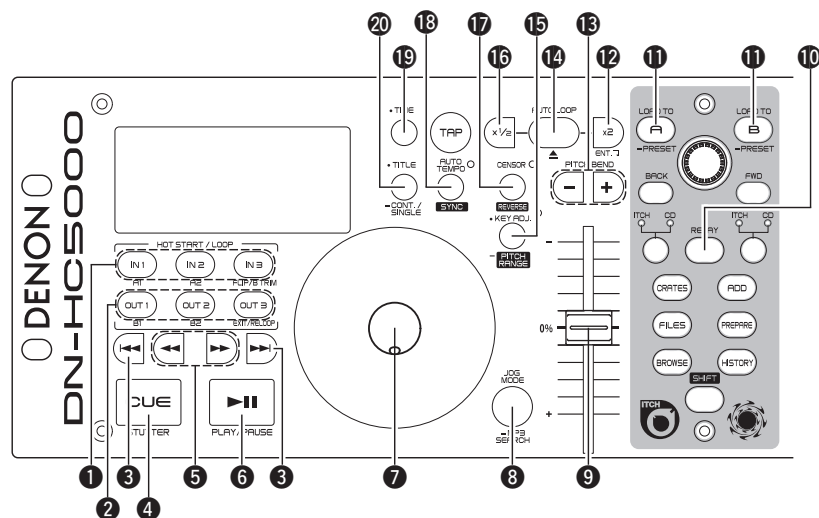
8. Trim

For instructions on the trim function, refer to the manual of the DN-D4000/D4500/BU4500.

NOTE:

If the setting made at the "CD Mode Sel" presetting does not correspond to what is actually connected, the unit may not operate properly.

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5. Comparison of button operation

	DN-D4500/BU4500	DN-D4000	DN-HC5000	
	Function	Function	Button Name	Operation
❶	A1	A1	IN1	Press
❶	A2	A2	IN2	Press
❶	FLIP/B TRIM	FLIP	IN3	Press
❷	B	B	OUT1 OUT2	Press
❷	EXIT/RELOOP	EXIT/RELOOP	OUT3	Press
❸	TRACK SELECT(±1)	TRACK SELECT(±1)	◄◄ ►►|	Press
❸	TRACK SELECT(±10)	TRACK SELECT(±10)		SHIFT + Press
❹	CUE	CUE	CUE	Press
❺	SHUTTLE ring	SHUTTLE ring	◄◄ ►►	Press
❻	PLAY/PAUSE	PLAY/PAUSE	PLAY/PAUSE	Press
❼	JOG wheel	JOG wheel	JOG disc	Rotate
❽	-	JOG MODE	JOG MODE	Press
❽	-MP3 SEARCH MODE	-		Long Press
❾	PITCH SLIDER	PITCH SLIDER	PITCH SLIDER	Move
❿	RELAY	-	RELAY	Press
⓫	•MEMO	•MEMO	LOAD TO A	Press
⓫	-PRESET	-PRESET	LOAD TO B	Long Press
⓬	Enter	Enter	x2	Press
⓭	PITCH BEND+/–	PITCH BEND+/–	PITCH BEND +/–	Press
⓮	OPEN/CLOSE	OPEN/CLOSE	AUTO LOOP	Press
⓯	•PITCH/KEY	•PITCH	KEY ADJ	Press
⓯	-RANGE	-RANGE		Long Press
⓰	-	-FOLDER	x1/2	Long Press
⓱	BRAKE	-BRAKE	CENSOR	Press
⓲	-	REPEAT	AUTO TEMPO	Press
⓳	•TIME	•TIME	•TIME	Press
⓳	-TOTAL	-TOTAL		Long Press
⓴	TITLE	•TITLE	•TITLE	Press
⓴	•CONT./SINGLE	•CONT./SINGLE	-CONT./SINGLE	Long Press

5 PRESET

- This function is only valid when the "PC" source is selected.
  (When the DN-D4000/D4500/BU4500 is connected, the corresponding preset operation is performed.)
- The DN-HC5000 is equipped with a preset function allowing users to store and recall the devices' operation modes. The function includes the items and values described below.

1. Preset mode

① Press and hold in the PRESET button for at least 1 second to enter the preset mode.
② Use the PARAMETERS knob to select the preset item.
③ Select the item and press the PARAMETERS knob to set the preset item to be changed.
④ Next, turn the PARAMETERS knob. The preset data is selected.
⑤ Select the data and press the PARAMETERS knob to set the preset data to be changed.
⑥ To make multiple presettings, repeat steps ② ~ ⑤.
⑦ The preset mode is turned off when the PRESET button is pressed.

2. Preset items and data

The "*" mark next to the data indicates the default value.

(1) USB Mode Sel: HC5000 ITCH*
    Selects the USB communications mode.

(2) CD Model Sel: DN-D4500* / DN-D4000
    Select the name of the model to be connected to the DRIVE terminal and controlled.
    The BU4500 is the same as the DN-D4500's drive, so the PRESET setting is "DN-D4500".

(3) Audio Fs Sel: 44.1k* / 48k / Auto
    44.1 kHz: The sampling frequency (Fs) is fixed at 44.1 kHz, regardless of the data sent from the PC.
    48 kHz: The sampling frequency (Fs) is fixed at 48 kHz, regardless of the data sent from the PC.
    AUTO: The sampling frequency (Fs) switches automatically according to the data sent from the PC.
    ① To set "Fs", press PARAMETERS.
    "OK to CHANGE?↓" is displayed on the character display.
    ② Press the PARAMETERS knob again.
    ③ After the sampling frequency is changed, "Audio Fs Sel" is displayed.

(4) Unit No. Set: 1 to 15 / ALL*
    Sets the device's unit number.
    For example, when two devices are connected to a PC, set one device to "No. 2" or the like.

(5) CH Set: 1&2* / 3&4 / 5&6
    Sets the channel.

(6) JOG Trns Int: 1ms to 20ms (3ms*)
    Selects JOG Pulse counts transfer interval.
    *For Vista users, please change this setting to 10 ms or higher.

(7) JOG Pulse Sel: 1480* / 740 / 555 / 370 count/cycle
    Selects the number of pulses output per one revolution of the jog wheel.

(8) FaderIn Mode: 1-PLAY/CUE / 2-PLAY/CUE*

(9) X-CONT XFD: OFF* / ON
    Sets whether to enable or disable X-control input signal cross fader input.

(10) Touch Init.: JOG Wheel Initialize.
　　① To Initialize JOG Wheel, press the PARAMETERS knob.
　　　"Push to Exe↓" is displayed on the character display.
　　② Press the PARAMETERS knob again.
　　　"OK to CHANGE?↓" is displayed on the character display.
　　③ "Initialize" is displayed on the character display.
　　④ "Completed!" is displayed on the character display.
　　　*If the Jog Wheel is not responding properly, please use this preset to reset them.

(11) Preset Init.: Set all the preset data back to the factory defaults.
　　① To clear the PRESET data, push the PARAMETERS knob.
　　　"Push to Exe↓" is displayed on the character display.
　　② Press the PARAMETERS knob again.
　　　"OK to CHANGE?↓" is displayed on the character display.
　　③ Once clearing is completed, "Completed!" is displayed.

6 TROUBLESHOOTING

If the unit still does not function properly, check the symptom against the list below. If the symptom is not covered on the check list, contact your dealer or service centers. Service centers are listed at http://www.d-mpro.com.

■ DN-HC5000 does not operate normally or no sound is produced

• **Are the USB cable, audio cables, etc., properly connected?**

• **Is the volume setting for the source, audio device, application, OS, etc., properly raised?**

• **Is the appropriate device selected on your audio application?**

• **Is the sampling frequency setting appropriate?**
➡Either make the same settings in the DN-HC5000's preset mode and on the application or set the DN-HC5000's preset mode to "AUTO".

• **Are there WAV files with different sampling frequencies and bit rates?**
➡Depending on your audio application, it may not be possible to play WAV files with different sampling frequencies and bit rates simultaneously.

• **Is other USB equipment in use?**
➡If other USB devices are connected, try connecting only DN-HC5000 to check for problems.

• **Is the USB connector of the connected computer compatible with USB 2.0 (Hi-Speed)?**
➡Use a USB 2.0-compatible cable.

■ Sound is broken or distorted

• **Are other applications or device drivers operating?**
➡Close any unneeded applications.

• **Are you playing multiple WAV files?**
➡When playing multiple WAV files simultaneously, depending on the capacity of your computer, the sound may be broken.

Please confirm the inquiry concerning ITCH with the following URL.
www.serato.com/support/denon

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7 SPECIFICATIONS

■ General

Power requirement:	U.S.A, CANADA model:	AC 120 V 60 Hz
	Europian model:	AC 230 V 50 Hz
Power consumption:	U.S.A, CANADA model:	12 W
	Europian model:	12 W

Ambient operation
temperature: 5 °C to 35 °C
Dimensions: 483 (W) x 133 (H) x 92 (max106) (D) mm
rack space: EIA 3U
Weight: 3.7 kg
Finish: Front panel: Black (Painted steel)
Rear & Enclosure: Black (Painted steel)

■ Audio

Analog output: 1, 2 RCA pin: unbalanced
2 Vrms = 0 dBFS
DA converter: Type 24 bit 32 times oversampling Fs: 44.1 kHz/48 kHz
D-range 106 dB (TYP)
S/N 106 dB (TYP) (DIN)
Frequency response: 20 to 22 kHz, ±0.5 dB
T.H.D: Less than 0.05 % (input = output = 2 Vrms/1 KHz, RL: 10 kΩ)
Residual noise: Less than –94 dBV (TYP)
Crosstalk: Less than –110 dB (TYP @1 kHz)

■ USB I/F

USB B connector: USB 2.0 (Max 480 Mbps)
PC/MAC (Host) ↔ DN-HC5000 (Slave) application
USB Audio (Speaker)
PCM 24 bit 44.1 kHz/48 kHz 4 ch
USB HID I/O (General)
32 Byte packet

■ Control I/F

Fader start: FADER 1
3.5 mm stereo mini jack (Tip/Ring:signal, Sleeve: GND), 0.5 VDC
FADER 2
3.5 mm stereo mini jack (Tip/Ring:signal, Sleeve: GND), 0.5 VDC
X-CONTROL: Input
3.5 mm stereo mini jack (Tip/Ring:signal, Sleeve: GND), 0.5 VDC
CD Drive control: Mini-DIN 8 pin connector (DN-D4500/D4000/BU4500 Drive unit control)

■ Others

Display: 40 mm x 100 mm VFD
Character w/12 digit x 2 line dot matri x & Scratch marker
Jog wheel: 71 mm, touch moving detection
(Touch ON/OFF, Dir FWD/RVS, Pulse count)
1480/740/555/370 Pulse/cycle

■ Dimension (Unit: mm)

DENON

ADDENDUM SHEET

DN-HC5000
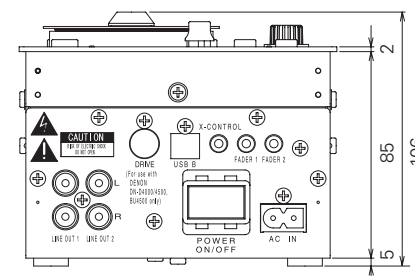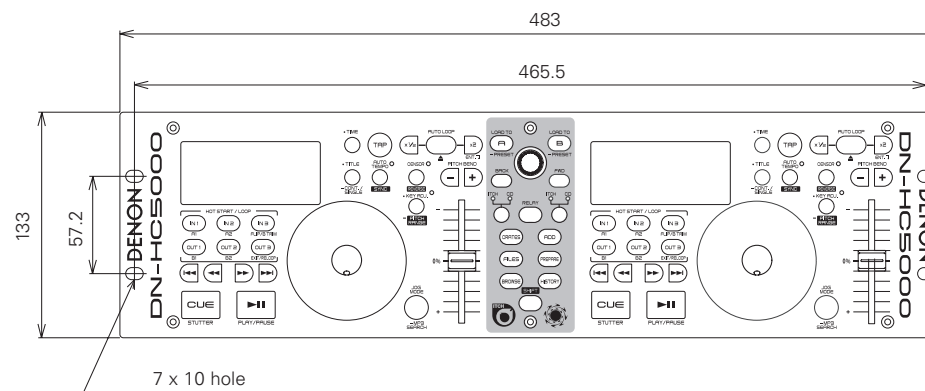
Add the function for ITCH Ver1.7

3. ITCH Software Overview

㉗ Key
Displays the tracks key tag. 【Underline : Additinal indicator】

5. Importing Music

SUPPORTED FILE TYPES
.MP3 , .OGG , .AAC , .AIFF , .WAV
ALAC, .WL.MP3 【Underline : Additinal supported file type】

12. Mixing

【Additional Function】

BEAT GRID & SYNC
A Beat Grid is a series of markers within a track that indicate a beat or a transient within the music structure.

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

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

Enable Beat Grid
To turn on Beat Grid functionality, check the Enable Beat Grid option in the Playback tab on the Setup screen.

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

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

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

Before Creating a Beat Grid
Setting up a Beat Grid relies on the track having an accurate BPM value calculated, so ITCH can set the Beat Grid markers on the track's beats or transients (See Analyzing Files page 12).

NOTE: The BPM analyzing has been greatly refined in ITCH 1.7. It is highly recommended that you force re-analyze your entire library again using this new analyze calculation. In offline mode, hold down Ctrl and click the 'analyze files' button to force re-analyze all of your files.

Creating a Beat Grid
ITCH will attempt to determine the first transient (this could be a kick drum or bass note) and use this to calculate the downbeat Beat Marker.

Once the downbeat Beat Marker is set, ITCH uses the track's BPM to automatically create a Beat Grid throughout the track. If the BPM is very accurate this could be all you need to do. If not, you may need to adjust the Beat Grid, or place further Beat Markers to allow for some tempo variations.

To check if the Beat Grid has calculated the markers correctly you can skip forwards into the track to see if the markers fall on the beats or not (after a breakdown is a good place). It is also a good idea to go to the track's outro and see if the markers are still falling on the beats.

12. Mixing

Editing a Beat Grid

If the Beat Grid requires editing, you need to turn on Grid Edit Mode. You can do this by pressing Alt + Spacebar (repeated pressing of this toggles between the Virtual Decks) or by clicking the Grid Edit button on the Virtual deck. When Grid Edit Mode is on, the Grid Edit button on the Virtual Deck will flash and a green bar appears above the waveform. To turn Grid Edit Mode off, press Esc or click the Grid Edit button again. Grid Edit Mode can be used with your ITCH hardware connected or in offline player mode. You may find it easier to make adjustments to the Beat Grid with the track not playing.

To save changes made to a Beat Grid, press Enter. Pressing Esc or clicking the Grid Edit button will exit Grid Edit Mode without saving any changes you have made to the Beat Grid.

With Grid Edit Mode on, use the following functions with your computer keyboard or mouse - no controls on the ITCH hardware are used to edit Beat Grids.

Set a Beat Marker

Pressing X or Alt + double clicking with the mouse will place a Beat Marker at the playhead position. The Beat Marker will snap to the closest transient. By default ITCH will place a Beat Marker on the first detected transient.

TIP: Set new Beat Markers where there is a tempo change in the track to allow the tempo to warp around these points.

With the track playing you can tap or click in Beat Markers on the fly. The Beat Markers will snap to the closest transient.

Deleting a Beat Marker

If you have set an incorrect Beat Marker, you can delete one, multiple or all markers. To delete the closest marker to the playhead, press the Delete key or Alt + Shift + click with the mouse. To clear all Beat Markers, press Shift + Delete.

Adjust the Beat Grid

The Beat Grid may not always be correctly estimated and the bars may not line up exactly with the transients, so you may need to make occasional adjustments. To adjust the Beat Grid so the bars align with the transients, use the Left and Right Arrow keys or Alt + click and hold on a bar and drag. The Beat Grid will expand or contract to follow your movements from your last set Beat Marker to the next Beat Marker (if there is no next Beat Marker set then it will adjust to the end of the track). To Fast Adjust the Beat Grid, press Shift + Left and Right Arrow.

You can also tap adjust the Beat Grid on the fly by tapping the space bar in time with the track. The Beat Grid will adjust in time with the tapped beat.

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

Slip the Beat Grid

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

To slip the Beat Grid press Ctrl + Left and Right arrow, or to fast slip the Beat Grid press Shift + Ctrl + Left and Right arrow.

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

Sync Using Beat Grid

Once your tracks have accurate Beat Grids you can now use them to easily sync two tracks together. Press AUTO TEMPO to permanently snap the Beat Grid of the track to that of the Beat Grid of the track on the other deck. This will continually lock the Beat Grid of both tracks together, keeping the tracks synced together permanently using the Master Clock. To turn sync off, press SHIFT and AUTO TEMPO. When sync is off, pressing SHIFT and AUTO TEMPO will toggle turning Auto Tempo on and off (See Auto Tempo page 17).

You can still use the platters to manipulate the audio while synced, however this can cause the Beat Grids to fall out of alignment. Press SYNC to re-sync the tracks.

Master Clock

When using the Sync function ITCH uses a Master Clock, which is a master tempo that all decks are synced to. The Master Clock will show in the middle of the virtual deck area, and will indicate which decks are currently synced to the displayed tempo value.

When you engage Sync on a deck, that deck becomes the Slave Deck while the deck it has been synced to becomes the Master Deck. The Master Clock will take its tempo from the Master Deck. The Pitch Slider on the Master Deck will control the Master Clocks tempo, and changing the Master Deck's tempo will change the tempo of all synced decks.

You can switch the decks so that the Master becomes the Slave and vice versa. To do so, move the the physical position of Pitch Slider on the Slave Deck to match the pitch value displayed on the virtual deck (you may need to adjust the pitch range if it is outside the current pitch range). Once the Pitch Slider "catches" the pitch, it will then become the Master Deck and take control of the Master Clocks tempo.

The Master Clock will be cleared if all decks which are synced then have the Sync function disengaged.

15. Additional Setup

HARDWARE OPTIONS

【Change Display】
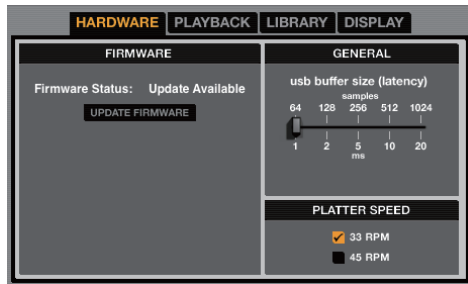
PLAYBACK OPTIONS

【Change Display】

【Additional Function】

GENERAL

HIFI RESAMPLER

This significantly reduces digital distortion at very slow or very fast record speeds, increasing the CPU load slightly. This option is off by default.

ENABLE BEAT GRID

When this option is enabled, all Beat Grid functionality is available. Disable this option if you don't wish to use Beat Grid.

【Additional Function】

AUDIO OUTPUT

OUTPUT

Allows you to set the audio output to Mono or Stereo.

HEADROOM

Select how much headroom your device has before the internal limiter engages. Less headroom results in louder output, but has a higher chance of the limiter engaging, especially when more than one audio channels are in the mix. With the initial headroom setting of 0dB you can apply 3dB of gain per deck before you hit the limiter.

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16. Whitelabel audio

【Additional Function】

WHITELABEL AUDIO FILES

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

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

Whitelabel audio files are promotional releases from records labels available to ITCH DJs for free from Whitelabel.net.

WHITELABEL.NET

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

LOCKED WHITELABEL.NET FILES

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

SYSTEM REQUIREMENTS

Whitelabel.net is tested to work on these browsers:
• Internet Explorer 7 and above
• Firefox 3 and above
• Safari 3 and above
You will also need Flash installed and have Javascript enabled to be able to preview and download tracks.

NOTE: Running Whitelabel audio files through Mixed In Key can cause the files to only play at 32kps in ITCH (even with an ITCH controller attached). At this time we advise you not to use Mixed In Key with Whitelabel audio files.

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D&M Holdings Inc.