

Numark® HDX

PROFESSIONAL HD/CD/MP3 PLAYER

Quick Start Owner's Manual

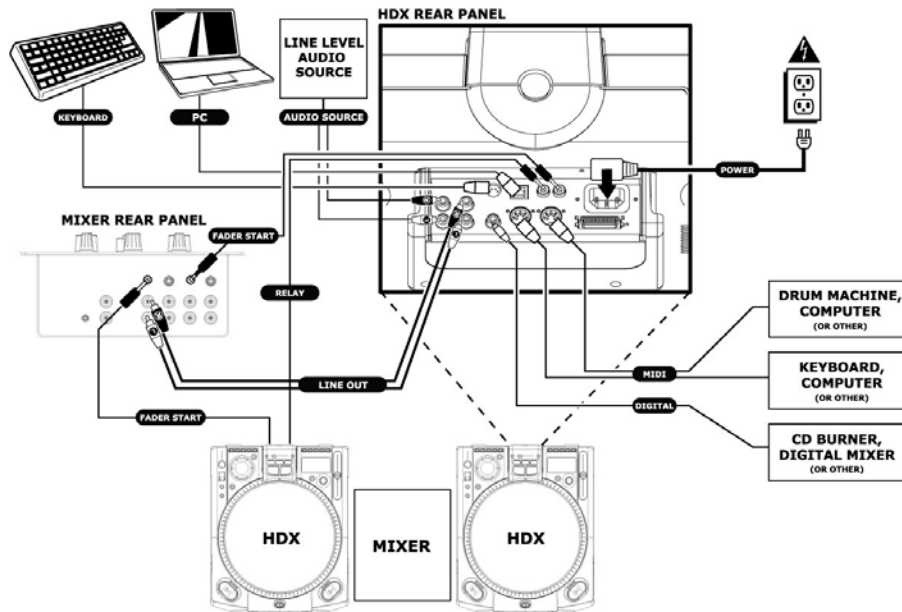
BOX CONTENTS

- HD/CD Player
- Platter Assembly
- Wrench
- Power Cable
- Audio Cable
- Fader Start Cable
- USB Cable
- Keyboard

POWERED BY



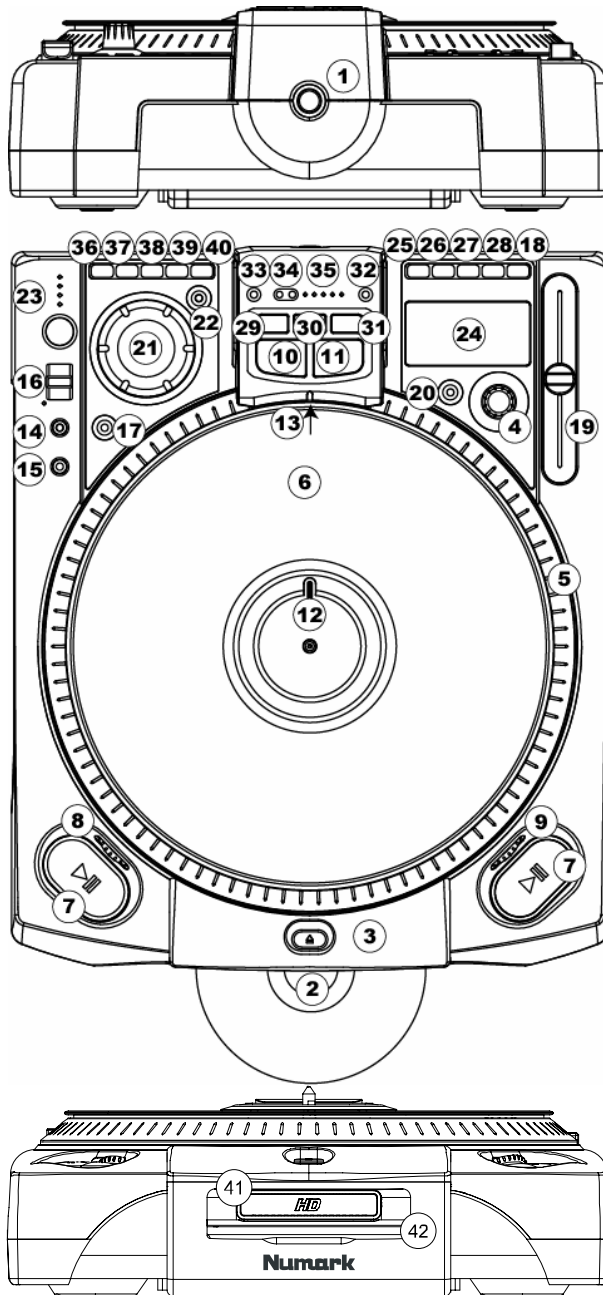
QUICK SETUP GUIDE



QUICK SETUP (ENGLISH)

1. Make sure all items listed on the front of this guide were in the box.
2. **READ SAFETY INSTRUCTION BOOKLET BEFORE USING THE PRODUCT.**
3. Assemble unit following the Quick Assembly Instructions.
4. Study this setup diagram.
5. Place the unit in an appropriate position for operation.
6. Make sure all devices are turned off and all faders and gain knobs are set to their lowest level.
7. Connect all stereo input sources as indicated in the diagram, your microphone, and headphones
8. Connect the stereo outputs to power amplifier(s), tape decks, and/or other audio sources.
9. Plug all devices into AC power.
10. Switch everything on in the following order.
 - audio sources (i.e. turntables or CD players)
 - mixer
 - finally, turn on any amplifiers or output devices
11. When turning off, always reverse this operation by,
 - turning off amplifiers
 - mixer
 - Finally, turn off any audio sources. **ALWAYS USE THE HDX'S POWER SWITCH TO POWER OFF THE UNIT. DO NOT SWITCH THE POWER OFF EXTERNALLY (FOR EXAMPLE, BY USING A POWER STRIP SWITCH).**
12. Go to <http://www.numark.com> for product registration.

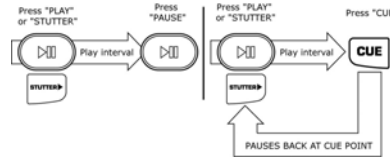
More information about this product may be found at <http://www.numark.com>



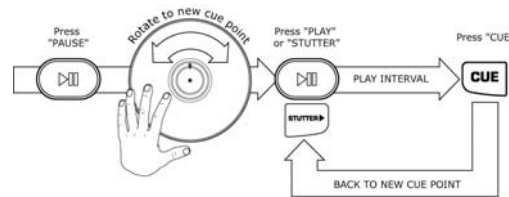
1. **Power Switch - Always shut down before removing or installing a drive caddy.** The HDX has a "soft power down" which will allow the hard drive to spin down before the power turns off completely, so it is important that the unit is always powered off using this button first before disconnecting the main

power lead or turning off a surge suppressor. Typically, it is recommended that the HDX is powered on before amplifiers and off after amplifiers to avoid an audio spike to be sent through your equipment.

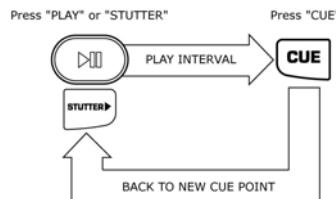
2. **Slot Load CD Drive** – Designed to play commercially available CD and properly burned CDR and CDRW discs. Insert the CDs you wish to play here. **Do not insert mini CDs (CD3"/80mm CDs) or CDs of an unusual shape as they may be damaged or damage the slot load mechanism.**
3. **Eject Button** - Used to eject CDs from the player. The CD will only eject when it is not playing.
4. **Track/Menu Select Knob**
Track – Rotate to select tracks.
Menu Select – Press "Menu" then rotate to move through menu options. Pressing selects menu options.
5. **High Torque Direct Drive Platter** - Utilizes a 4.7 Kg cm motor to turn the vinyl record. The platter should not be held in position for sustained periods.
6. **Vinyl Record** – Controls the playback of the music, including scratching, pitch bend and cueing.
7. **Play/Pause Button** – Starts and stops playback and the platter. Pressing toggles between play and pause of the platter. Each time PLAY is pressed after pausing, a new Cue Point is set.



8. **Startup Adjust** – Changes the amount of time it takes for the platter to stop when the PAUSE button is pressed. As the wheel is moved right the braking time increases. For fast braking move the wheel all the way to the left. As you turn the wheel, the display will indicate the braking time.
9. **Brake Adjust** - Changes the amount of time it takes for the platter to start when the PLAY button is activated. As the wheel is moved to the right the startup time decreases. For fast startup move the wheel all the way left. As you turn the wheel, the current startup time is shown on the display.
10. **Cue Button** - Returns and pauses the music at the last set Cue Point. The Cue Point is the last place at which the unit was paused and then PLAY or STUTTER was pressed. Pressing and holding the CUE button will temporarily play starting from the cue point until you release the button. You can easily edit the cue point by turning the record while paused. As you rotate the record the music will sound. By stopping the wheel and pressing Play, a new cue point will be set.



11. **Stutter Button** – When pressed, the music will play from the current cue point or the last point of pause. If you start from the last pause point while the unit is paused, a new Cue Point is set. Repeatedly pressing this button while the unit is playing will restart the unit from the last Cue Point, creating a "stutter" effect. This also works from "RELOOP".



12. **Position Marker** – Used as a visual reference of platter position.
13. **Target Light** – Illuminates the platter surface.
14. **Record Button / Record Light** – When recording from the audio inputs this button will blink to indicate you are recording. Pressing this button will take you to the record screen and arm the HDX for recording. See the section on recording for more information.
15. **33/45 RPM Button** - changes the rotation speed of the platter and the music. The default mode is 33 RPM, so when 45 RPM is selected the speed and pitch increase 35%. The default platter speed can be set from the "Playback Options" menu.

16. **Reverse/Bleep Switch**

Audio Reverse – Changes the direction of the platter and the music until it is returned to the upright center position.

Bleep – Temporarily reverses the music from buffer while the unit continues forward motion. When the toggle is released the unit resumes playing from the point where the song would be normally if it had not been reversed. This is useful for “bleeping” out certain lyrics without interrupting the flow of the song.

17. **Scratch Mode Button** – Changes the way the music reacts to movement of the record.

Scratch – Allows the record to act just like a typical record on a turntable.

Scratch+FWD - Allows the record to act just like a typical record on turntable but only plays forward actions. Hold “Scratch” for 1 second to get in the FWD mode.

Scratch+CUE – Moves the to the last set cue point each time the record is moved, allowing you to scratch from the same point every time you move the record.

Scratch+CUE+FWD – Moves the to the last set cue point each time the record is moved, allowing you to scratch from the same point every time you move the record, and only plays audio when the record is moved in a forward direction.

18. **Pitch Button** - Adjusts the range of the pitch fader. Pressing this button will cycle through pitch ranges of 6, 12, 25, and -100/+50%. Holding this button for 2 seconds will deactivate the pitch fader. Pressing PITCH again will reactivate the pitch fader.

19. **Pitch Fader** - Controls the overall speed of the music and platter. At pitch settings of -80% to -100%, the platter will deactivate and the music will be controlled by the slider. By moving the slider toward “+”, the music speeds up. By moving toward “-”, the music plays more slowly.

To match the speeds of two units, you can either monitor the music of both units by ear, or use the automatic BPM readout and adjust the speed to match. When the tempo of the music of the song you wish to match is slow compared to the tempo of the other song, move the slider toward the (+) end and match the BPM. When faster, move the pitch slider toward the (-) end. By making this adjustment the speeds can be matched, though the beats may not yet be aligned.

20. **Key Lock** – Holds the music at the current key. If the pitch slider is moved, the speed will change, but the key will remain the same. By adjusting the pitch to -100% you can actually slow the music to a complete stop while playing the last heard tones of the music. This works very well on vocals and can be a very cool effect. If the unit has Key Lock active after the track has been changed and before Play is hit, the unit will lock to a key based on the current pitch fader position. If “Key” is deactivated during Pause, the unit will reset to match the current pitch position. If “Key” is deactivated during Play, the key will remain at the new position until the track is changed.

To change the key of the music press and hold “Key Lock” while moving the “Track/Menu Select Knob”. The key can increase to 1 octave above normal, or up to 2 octaves above normal when the Slide effect is used. The key can decrease up to 5 octaves below normal. The display will limit to 19 half steps above or below the normal key.

21. **Jog Wheel** - This wheel is used for searching, adjusting the parameters of effects, trim, and key. When the motor is off, this wheel is used to control pitch.

22. **Search** - Changes the mode of the “Jog Wheel” search mode. Search will remain active while the wheel is being moved and for 8 seconds after. Moving the wheel clockwise rapidly moves forward through the music. Counterclockwise moves backwards through the music. Search will automatically turn off after 8 seconds of non-use.

23. **The Beatkeeper™** - Utilizes the latest patented Beatkeeper™ technology. The Beatkeeper™ automatically tracks beats based upon a combination of frequencies and rhythm patterns in the music. It shows BPM in the display and outputs 4-count (a.k.a. one measure) information about the music in a marching bar graph.



The Bar Graph: Most dance music and rock is set up in 4 beat increments called measures. Many of the features within the unit use this information for incredible results. It's important to understand the basics of how the Beatkeeper™ works to effectively take advantage of other advanced features in the unit. The bottom LED is for the 1st beat or “Down Beat”. Typically, most music starts on the downbeat so the unit sets the first beat to where the music begins. Occasionally this may not be correct or you may wish to reset it. To reset the downbeat simply tap the “TAP” button at the new downbeat location as the music is playing or while in Pause.

TAP: This button is used for resetting the downbeat and also re-calibrating the BPM. The Beatkeeper™ is considered by many to be the most accurate automatic beat counter on the market today; however, it occasionally may have trouble determining the correct BPM. This can happen when the music contains complex rhythms, or if it starts without a beat at all. If you know the BPM showing in the display is incorrect, or if the beat LEDs are not flashing with the beat, you have 2 options to reset the Beatkeeper™.

1. Press the Tap button on the downbeat and hold for a second. This will tell the unit to re-calculate and display the next BPM it finds.
2. If holding the “TAP” button doesn't work, you can manually hit the “TAP” button on the beat and the display will indicate the new BPM. The BPM will be based upon the average of your last 8 taps. The Beatkeeper™ will then know which beats in the music it should be using to determine the correct BPM and it will track them through the song.

Occasionally, the unit will be tracking the wrong beat but have the correct BPM. To reset the downbeat, simply hit the "TAP" button once on the downbeat.

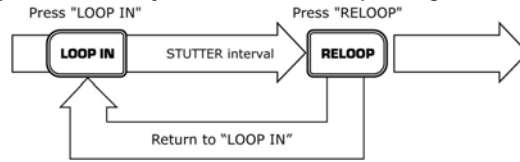
Storing BPM Information: BPM information can be stored for each track, which allows the BeatKeeper to quickly lock onto the correct tempo when playing the track. The stored track BPM can be updated manually by editing the BPM field on the track info page, or semi-automatically as follows:

1. The BPM will be stored every time the beat is tapped in using the TAP button.
2. The BPM will be stored automatically when the track plays through its entirety under the following conditions:
 - A. If no BPM has been stored for the track previously.
 - B. If the user tapped in the beat during playback of the track using the TAP button.
 - C. If the user pressed and held the TAP button to resynchronize the BeatKeeper.

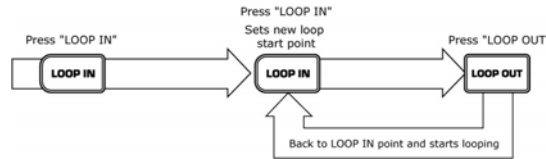
Please note that this stored BPM value, if present, is used to speed the convergence of the BeatKeeper algorithm. If a grossly inaccurate BPM is stored (via TAP or manually), the BeatKeeper may not converge to an accurate result. This situation can be corrected by entering a better estimate of the BPM by any of the methods mentioned above.

24. **VFD Display** - This is the main display, which shows all menu options and the current play status.
25. **Display/Back Button** - When navigating through the menu system this button is used to step back to the previous menu level or it is used like a backspace when entering text. During play, press this button to toggle between elapsed time, track remaining time and remaining time on the entire playlist or running order.
26. **Store/Recall Button** - Holding this button for one second will store all cue points for the current track. Pressing and releasing this button will recall the cue points for the current track.
27. **Menu** - Pressing this button will allow you to use the track knob to navigate through the various menu options on the HDX. Pressing the track select knob like a button will choose the selected menu item. Many options will be stored and retained on unit power off. See the section "Navigating the Menu" later in this manual for an in depth description of the menu options. When selecting a track holding the track select knob for 2 seconds will let you view information about the song without selecting it. On the track display screen holding the track select knob for 2 seconds will show and allow you to edit the track's information.
28. **Single** - Toggles the unit to play back just one track at a time (Single) or play continuously through all tracks and then start over repeating the running order infinitely (Continuous).
29. **Loop In** - This is the point where you would like a loop to start. By default, a "loop in" point is automatically set at the beginning of the song. To define a new "loop in" point, just press the LOOP IN button when the song reaches the desired point where you would like a loop to begin. The LOOP IN button will light, indicating a new loop in point has been set. The RELOOP button will also illuminate indicating that you can now press RELOOP to immediately go back to the loop in point and begin playing.

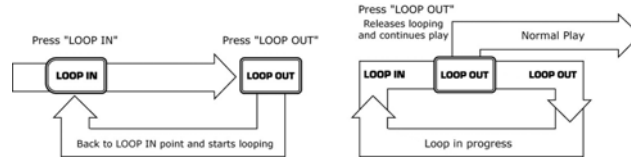
Note: Changing tracks will always clear the current loop settings.



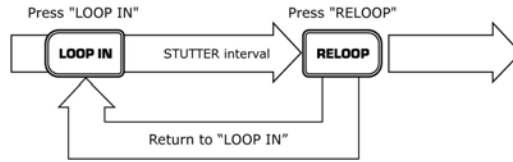
If you wish to change the loop-in point, just press "Loop In" again.



30. **Loop Out** - Sets the end point of the loop. The first time you press LOOP OUT while a song is playing, the LOOP OUT button will blink, and the song will begin playing in a seamless loop, starting from the "loop in" point and ending at the "loop out" point. To release, or end the loop, press LOOP OUT a second time and play will continue forward when the song passes the previously set "loop out" point. The LOOP OUT button will then be continuously lit, indicating that the loop is now in memory for "reloop" purposes.



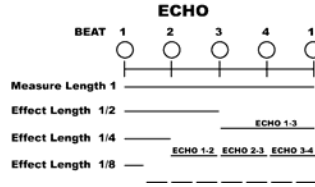
31. **Reloop** - Repeats play or "stutters" (if repeatedly tapped) from the "loop in" point. If a loop has previously been set, it plays and repeats that loop, until the loop is released by pressing the LOOP OUT button.



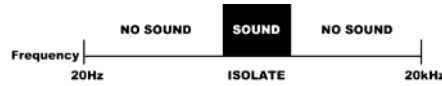
32. **Smart Loop** – Allows the Beatkeeper™ and loop buttons to work together to create loops that are synchronized to the beat. First, properly align the Beatkeeper™ to the beat. After this has been done, all loop points and stuttering will be synchronized perfectly to the beat of the music.
33. **Trim** – Allows the loop-in and loop-out points to be adjusted. To adjust a point, press TRIM followed by the button of the point you wish to adjust (LOOP IN, LOOP OUT, RELOOP), then rotate the small jog wheel. When used with "Reloop" the unit will shift the entire loop by moving both the loop-in and loop-out points at the same time. When used with "Smart Loop", the unit will adjust all points in 1-beat increments.
34. **< shift >** – Adjusts the loop length by half length or double length increments. If the "Smart Loop" feature is on, this will be limited to a minimum loop length of 1 beat.
35. **Length LEDs** – Shows the length of the loop based upon the Beatkeeper™ setting. *The middle LED is 4 beats.*

Effect Buttons 36-40 are used to activate and deactivate a desired Effect. Holding an Effect button for 1 second will place the effect into a "hold" or alternate effect mode depending on which button you press. Once an effect is active, rotate the jog wheel to get the desired effect sound. The parameter value will be shown on the display. You can preset a desired value by holding the button and rotating the wheel.

36. **Sonar** – Creates a metallic hollow effect to the audio. Pressing and holding this button will keep the sound from automatically returning to normal when movement of the jog wheel stops. Tapping the button will turn the effect on and off at the desired setting.
37. **Slide** - Smoothly changes the key of the music. In the key display you will see the key change as the jog wheel is moved. Pressing and holding this button will keep the sound from automatically returning to normal when movement of the jog wheel stops. Tapping the button will turn the effect on and off at the desired setting.
38. **Echo** - Adds echo to the music also based upon tempo reading of the Beatkeeper™. The start parameter is no echo "0". If you move the wheel clockwise, the numbers will go 1-64, 1-32, 1-16, 1-8, 1-4, 1-2, and 1-1 indicating the amount of echo added to the audio. If you move the wheel counter-clockwise you will create negative or preceding echo. This essentially plays an echo ahead of the music. At 1-1 the music will echo 1 full measure or 4 beats of music. If you turn off the effect then back on again it remembers the last set parameter. *(Note: a preceding echo requires the unit to play from buffer memory. If the buffer becomes unavailable the effect will stop until buffer playback is restored.)*



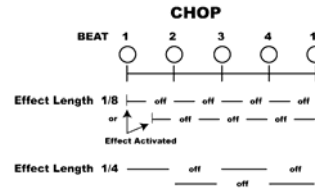
- A.D.** (hold the Echo button to activate) - stands for "Auto Decimation". It reduces the bit rate of the music, creating increasing distortion. To activate this effect, hold the "Echo" button for 2 seconds.
39. **Filter** – An isolation (band pass) filter that lets you play only a specific frequency of the music. Rotation of the wheel moves the filter frequency. If you turn off the effect, then on again, it remembers the last set parameter value.



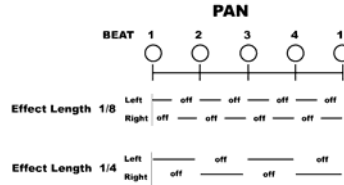
Kill (hold the Filter button to activate) - This elimination (band stop) filter lets you play all but a specified frequency. To activate, hold "Filter" for 2 seconds. Rotation of the wheel moves the filter frequency. If you turn off the effect, then on again, it remembers the last set parameter value.



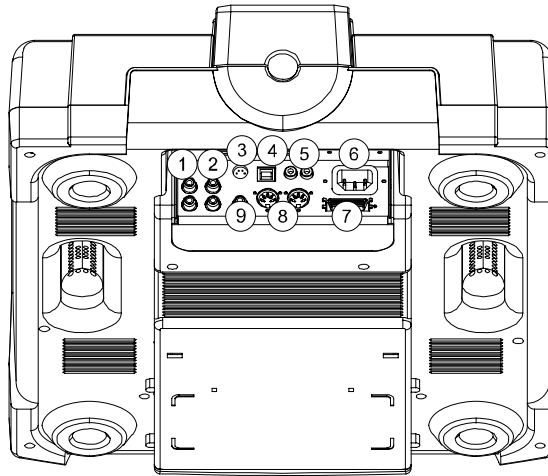
40. **Chop** – breaks up the music by turning the volume on and off based upon the BPM of the Beatkeeper™. This effect works best when the Beatkeeper™ is properly aligned. First activation of this effect plays 1/8th note or half of every beat. The BPM display will indicate "1-8", which means one measure (4 beats) of music has been broken into 8 parts. Rotation of the wheel to the left decreases the parts to 1-4, 1-2, and 1-1. At 1-1 the music plays for 4 beats then is silent. Rotating to the right breaks up the music into 1-16, 1-32, 1-64, then smaller increments, creating another interesting effect. When the effect is first activated, the music will play the section then turn off for a section. This is important because you can reverse the sections that are on and off by activating the effect in the other section. If you deactivate the effect, then turn it on again, it remembers the last set parameter value.



- Pan** (hold the Chop button to activate) - Alternates playing the right and left channel based upon the BPM of the Beatkeeper™. This effect works best when the Beatkeeper™ is properly aligned. To activate, hold "Chop" for 2 seconds. First activation of the effect alternates on 1/8th notes or half of every beat. The BPM display will indicate a "1-8", which means one measure (4 beats) of music has been broken into 8 parts. Rotation of the wheel to the left decreases the parts to 1-4, 1-2, and 1-1. Rotating to the right makes faster changes of 1-16, 1-32, 1-64, then smaller increments, creating another interesting effect. If you deactivate the effect then turn it on again, it remembers the last set parameter value.



41. **Removable Hard Drive Caddy** - This is where the HDX hard drive is stored. It should never be removed until the power has been turned off. By default, the hard drive caddy is locked in place with a single screw to prevent the drive from being removed. To take out the screw, you must first remove the platter. You should then see the screw located above the hard drive.
42. **Slot Load CD Drive** - Designed to play commercially available CD and properly burned CDR and CDRW discs. Insert the CDs you wish to play here. Do not insert small CDs or CDs of an unusual shape as they may be damaged or damage the HDX.



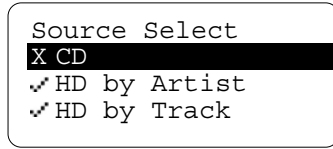
- RCA Input Connectors** - This is where you would connect your line level source that you wish to record.
- RCA Output Connectors** - These are the main analogue outputs of the HDX. Typically this is where you would connect RCA cables to connect the HDX to a mixer or amplifier.
- PS/2 Connector** - Connect the included PS/2 compatible keyboard here for text entry and menu navigation.
- USB Connector** - Plug one end of your USB cable here and the other into your computer to allow your HDX and computer to communicate with each other to transfer files.

5. **Relay Connector** - If you wish to use the relay function, plug in your 3.5mm stereo control cables into here and then into your other CD player. The cable must have a stereo-style plug for the units to work properly.
Remote Start Connector – Use this connector to plug into your fader-start compatible mixer or remote switch. This function is always active.
 - a. To use this connector for fader-start, connect the supplied fader-start cable to a fader-start compatible mixer. Every time you move the crossfader on the mixer to the side that the unit is on, it will start playing. When you move the fader away from that side, the unit will stop. Moving the fader back will start playback again.
 - b. Foot switches can also be attached to this jack for creative mixing techniques and can be found in most music shops. Connector plugs are often ¼", so a 1/8" adapter will be needed for connection. There are also two types of footswitches that will work with this connector. The first is a typical, on/off pushbutton switch and is generally used for switching channels on guitar amps. The second type is a momentary footswitch, which is typically used for keyboard sustain pedals.
6. **IEC Power Plug Connector** - Plug your supplied power cord in here. Above the power connector there is a small red switch that is used to set the voltage of the unit to correspond with either 115v/60Hz or 230v/50Hz electrical systems. Make absolutely sure that this switch is set properly before plugging in the unit or you will damage the internal components. This damage would not be covered under warranty.
7. **HDX Link** - This option port is unused as of the writing of this manual but may be used for future expansion.
8. **MIDI IN Connector** – This port is for receiving MIDI (Musical Instrument Digital Interface) signals from other MIDI devices such as CD players, keyboards, or drum machines.
MIDI OUT Connector – The port is for sending MIDI signals to other MIDI devices.
9. **Digital Output** - The format is Type 2, Form 1, also known as S/PDIF (Sony/Phillips Digital Interface Format). This allows digital audio information to be sent to a device equipped with a S/PDIF input.

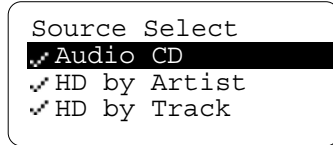
BASIC OPERATION

Playback from CD

To play back material from the HDX you must first select the source you would like to play. Begin by pressing down on the track select knob to go to the SOURCE SELECT menu as shown below.



Items that are currently available will be indicated with a check mark while unavailable items will show an X next to them. In the image above, no CD was loaded into the HDX, so the CD option is shown with an X next to it. After loading an audio CD this display will appear as shown below.



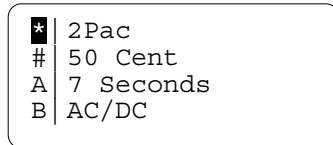
To play an inserted CD, highlight "Audio CD" or "Data CD" and press the track knob to select it. At that point you will be shown a list of tracks on the CD. To cue a particular song, just highlight it in the list and press the track knob. The song will then be cued and ready to play by pressing PLAY or STUTTER. Pressing the track knob again at this point will take you back to the main playback screen.

If the CD is found by the onboard Gracenote® Music Recognition database, the appropriate artist and song information will be shown on the display.

Playback from the hard drive

Go to the SOURCE SELECT menu as shown above. You then have the option of displaying the contents of the hard drive organized by Artist, Track, BPM, Album, Genre, or Playlist. The process for selecting a track based on artist, track title, album or genre are essentially the same, so we'll just cover it based on the assumption that you want to select a song by the artist's name.

If you choose "Artist" you will see a screen that looks something like this:



To locate the desired artist, choose the first letter of the artist you're looking for in the left column and press the track selection knob, or select the asterisk to display a list of all artists in alphabetic order. If the artist's name begins with a number, select the pound sign. Once you press the track select knob you will then be shown a list of all of the artists starting with the letter you selected. Highlight the desired artist and press the track knob and you will be able to choose which track by that artist you wish to play.

To select songs based on tempo (BPM) choose "HD by BPM", then select the BPM range you're looking for. To play songs in a certain playlist, select "HD Playlists", then choose the playlist you want to play.

Tip: You can always get back to the main playback screen by repeatedly pressing the DSPLY/BACK button.

Tip: To make sure your audio files are organized properly in the HDX it is important that your mp3 files contain proper ID3 tag information. Use your favorite mp3 organization software to enter in the correct file characteristics (artist, title, album, genre, track number and year)

Adding Content to the Hard Drive

In addition to being a full featured CD player, the HDX also has a removable 80 gigabyte hard drive for storage and playback of thousands of audio files.

ALWAYS USE THE POWER SWITCH ON THE HDX TO TURN THE UNIT OFF!

Never turn off the HDX by unplugging it or by using an external power switch (such as on a power strip). If power is interrupted while it is performing a write operation to the hard disk, the hard disk's file system directory could become corrupted, making it unplayable. Using the HDX's power switch will allow it to power down gracefully so this does not happen.

NEVER INSERT OR REMOVE THE HARD DISK WHILE THE UNIT IS ON!

This could result in corrupted data on the drive or damage to the drive. Always power down the unit before inserting or removing the hard drive caddy.

There are four ways to add songs to your hard drive:

1. Connect the unit to your computer via USB to use the high speed USB 2.0 connection to transfer songs. This is the fastest method.
2. Insert an audio CD or CDR and rip the files to the hard drive. If the CD is a store-bought, prerecorded audio CD, then there is a good chance it will be recognized by the onboard Gracenote® Music Recognition database, allowing the artist and song information to be loaded automatically. The music files will be compressed in the background allowing you to continue to use the unit normally.
3. Insert a data CD with MP3 or WMA files and rip the files to the hard drive.
4. Record using the LINE IN connectors on the underside of the unit.

Music recognition technology and related data are provided by Gracenote. Gracenote is the industry standard in music recognition technology and related content delivery. For more information visit www.gracenote.com.

1. USB 2.0 File Transfer

To connect your HDX to a computer, first power off the HDX, then connect a USB cable from the HDX to your computer, then power the HDX on.

When connected via USB to a computer, your HDX will behave as a Mass Storage Class device, which means it will appear as a normal hard drive to your computer and can be found either in the "My Computer" window (on Microsoft Windows operating systems) or on the desktop (on the Apple Macintosh operating system).

To transfer songs to the HDX, simply open the HDX drive icon and drag your audio files from your computer to the HDX and drop them in the "Audio" folder. You can also perform the normal file management functions (renaming, deleting etc.) right from this window.

Note: Do not unplug the USB cable while transferring files or the file system directory on the HDX could be damaged.

2. Copying An Audio CD From The Internal CD Drive

If you want to rip a CD to store on the hard drive for playback after the CD has been removed, press the MENU button and choose "Rip/Rec Options" then select "Rip CD" to display the current compression settings. To begin recording the CD, press the track select knob, or press the DSPY/BACK button to back out of the menu.

Note: You can change the compression settings by going to MENU > Rip/Rec Options > Encoding Options.

Once the recording process has begun, you can continue to play other tracks from the CD or hard drive while the CD is being ripped. If you play a CD while it is being ripped, the time to rip the CD will increase dramatically. When ripping is complete the CD will be ejected.

Note: At any time during the ripping process you can check the rip status by pressing MENU, selecting UTILITY, then STATUS.

Copying A Data CD From The Internal CD Drive

This process is the same as step 2 above. If the files have already been compressed when written to CD, the ripping process will be much faster than with a standard audio CD.

Important information about WMA and VBR (Variable Bit Rate) Files

MP3 VBR (Variable Bit Rate) and WMA (Windows Media Player) files require special timing information to be generated in the form of a TOC (Table of Contents). The HDX does this generation on files on the hard drive as a background process, so you don't need to do anything. However, it takes some processing time for this to happen. If you see a filename with (NOTOC) at the end, it means the HDX has not yet generated a TOC for that song. If you play a song with no TOC, cue point settings may not be as accurate as usual, and reverse playback may not occur smoothly. Furthermore, if you jump to a cue point, there could be a glitch in the audio playback some time after the cue point. For these reasons, we recommend that you wait until the HDX has finished generating TOCs for all files before playing them live.

The HDX does not generate TOCs for VBR MP3 and WMA files on CD. You must rip these files to the hard drive in order to scratch, play in reverse, or set cue points accurately. Therefore, we highly recommend that you rip these files to your hard drive and allow a TOC to be generated before playing these files in a performance situation.

3. Recording Audio From The LINE IN Jacks

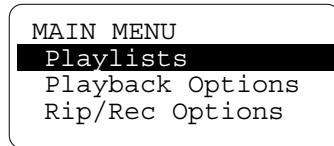
To record audio from the LINE IN jacks on the underside of unit, just connect your line level audio device to the connectors marked "LINE IN". Then press MENU, select RIP/REC options, and then choose START RECORDING. At this point you should adjust the level of your output device to achieve the proper recording level as indicated on the meter shown on the HDX display. Ideally, the meter should reach the word MAX without actually touching it. If MAX lights up, the signal is too loud and could cause distortion in the final recording.

Once you have set the proper level on your output device, press the select knob to continue. You will then be able to name your recording by using either the select knob or an attached keyboard. By default, the name will be "Recording" followed by a number. If you want to enter your own name instead, use the back button to erase the word "Recording" and enter your own title using either the select knob or an attached keyboard. After entering the title of the recording, press down on the select knob to begin recording.

Once recording has begun, you can press the select knob to split display the meter and elapsed time. You can also tap the blinking RECORD button once to split the recording into multiple tracks. When you want to stop recording, just hold the blinking RECORD button until the display indicates that recording has stopped. The recording will be encoded to the format you selected from the compression settings menu. Your recorded file will then be available for playback under the name that you previously assigned it.

Navigating the Menu

Pressing the MENU button will display the main menu as shown below:



Navigating the menu system of the HDX is done by turning the track knob to scroll up and down, and by pressing down on the knob to choose a menu option or to enter a sub-menu. In addition to using the track knob to navigate, you can also use an attached keyboard to navigate the menu system and to enter text. Currently the following keyboard commands are available:

Esc = Back
Enter = Select
Cursor Up/Left = Rotary Encoder Counter-Clockwise
Cursor Down/Right = Rotary Encoder Clockwise
I = View Track Info
F1 = Search Cd
F2 = HD by Artist
F3 = HD by Track
F4 = HD by Bpm
F5 = HD by Album
F6 = HD by Genre
F10 = Go to Source Select Page, Set Search mode to "Contains"
F11 = Go to Source Select Page, Set Search mode to "Begins With"

Prtsc = Control the master HDX
Pause = Control the slave HDX

In this section we'll break down the menu items and explain each menu option to help you get the most out of your unit!

Playlists

Highlighting and selecting the PLAYLISTS menu option will bring you to the playlists sub-menu, which has 4 options.

Add Cur. Track to List

Choosing this menu item will bring you to a list of playlists on the unit, allowing you to add the current track to a previously created playlist. Use the track knob to choose which playlist you would like to add the track to, and then press the track knob to select it. If no playlists have been created, the message "This Folder Is Empty" will be displayed.

Create A Playlist

This allows you to create and name a new playlist. Once the playlist has been named, you will have the option to add tracks to the playlist immediately by navigating the contents of the hard drive, or you can add tracks later through the playlist menu.

Add Tracks to Playlist

Choose this to add multiple tracks to a playlist. Selecting this option will bring you to a list of playlists on the unit. Selecting a playlist will then allow you to add multiple tracks to that playlist.

Remove Playlist Element

This will allow you to remove a song from any playlist on the hard drive. Selecting this option will bring you to a list of playlists on the unit. Selecting a playlist will then allow you to remove a song from that playlist.

Note: You can remove a playlist completely by connecting the HDX to a computer, navigating to the Playlists folder and deleting the playlist you want to remove.

Playback Options

Motor On/Off

Determines whether or not the platter will spin while playing a song.

Motor Speed

Allows you to choose the speed that the platter spins; either 33 1/3 RPM or 45 RPM.

Reverse Mode

This changes the behavior of the reverse switch. If "Platter & Sound" is selected, and you activate the reverse switch, the sound will play backwards *and* the platter will spin backwards too. If "Sound Only" is selected, only the sound will play backwards, but the platter will continue to spin clockwise.

Relay On/Off

Turns the relay feature on or off. Relay allows you to automatically alternate play between two units that are connected via relay cable.

Relay Timing

When the relay feature is active, and you have 2 units connected via relay cable, you can use relay timing to adjust the overlap or delay between songs. Use an "overlap" to have one song flow into another. Use a "gap" if you want a space between songs.

Remote Start Mode

The HDX is equipped with a remote start jack that allows you to remotely start and stop the unit by connecting it to either a compatible fader start mixer or switch.

There are three remote start mode settings:

Fader Start Use this mode if your HDX is connected to a fader start compatible mixer.

Remote On-On Use this mode if you want to use a momentary footswitch (like a keyboard sustain pedal) to start and stop the HDX.

Remote On-Off Use this mode if you want to start and stop the HDX with an on/off button commonly used for switching channels on a guitar amp.

Remote Start Action

This setting controls what will happen when the HDX receives a "stop" command via the remote start connector. Setting the remote start action to "Cue" will cause the track to go back to the current cue point, while "Pause" will cause the track to pause.

Interlock

Interlock allows you to automatically synchronize the tempo of 2 HDX units connected together with MIDI cables. For more information see the dedicated interlock section later in the manual.

Rip/Rec Options

Start Recording

Selecting this menu option will allow you to use the HDX to record line level audio via the rear panel audio inputs. Keep in mind that if you want to record audio from a turntable or microphone, you will need to use a preamp or DJ mixer to boost the signal to line level. For more information on recording audio, please see the section "Adding Content to the Hard Drive".

Rip CD

Use this option to record a CD to the HDX internal hard drive. You can record both Redbook audio CDs as well as data CDs. For more information please see the section "Adding Content to the Hard Drive".

Encoding Options

Choosing this menu option will allow you to specify the type of compression used for information recorded to the internal hard drive. There are 3 options:

- o **No Compression** - This option will allow you to record information to the hard drive in a lossless, uncompressed ".wav" format. Use this option if you need to make sure you get the most accurate recording possible, but keep in mind that although this option will produce the best audio quality, it also will create very large audio files, which will ultimately reduce the total amount of songs that will fit on the hard drive.

In addition to an uncompressed format, you can also choose between two types of mp3 files.

- o **CD Quality** - This option will save your recorded and ripped information as 192 kHz mp3 files.
- o **Pro Quality** - This option will save your audio data as 320 kHz mp3 files. This is a nearly lossless compression and as with the "uncompressed format" will give you audio of a higher quality than the 192 kHz option, but at the cost of larger files.

Utility

Processing Status

If you want to check the status of the information the HDX is processing, select this option and you will see three progress indicators.

CDA - When a CD is inserted, the contents are duplicated on the hard drive. This shows the duplication or "mirroring" process.

ENC - Shows you the encoding process. If a CD is being ripped to the hard drive this bar will be active.

TOC - This graph indicates that the HDX is generating table of contents information for files on the hard drive.

HD Status

This screen will show you the amount of used and available space on the hard drive.

Cleanup

The cleanup menu is where you go to delete or rename songs. If "Delete Protect" is enabled in the Utility menu, you will be prompted to enter our password before you can delete or rename any files.

Delete Protect

Enabling delete protect will allow you to place the HDX into a protected mode so that no files may be deleted without first entering in a password. You will be prompted to enter a 4 character password. This password will be needed to delete or rename tracks or to disable Delete Protect.

Reset Factory Defaults

Choosing this will allow you to reset all of the HDX settings to their factory default "fresh out of the box" settings.

Calibration

This will allow you to recalibrate the platter, pitch wheel and pitch slider. This may be necessary after an operating system update.

Utility Features

Updating Firmware

To update your unit's firmware, hold down the EJECT button, then power on the unit until it prompts you to insert a firmware update CD. Then, follow the on-screen instructions. After you update the firmware, be sure to recalibrate your unit through the utility menu.

Calibrating the Unit

To calibrate the unit, press MENU, select UTILITY and choose CALIBRATION. Follow the instructions as shown on the display.

Updating the Gracenote® Database

To make sure your HDX will display the correct track and title information for new CDs, you should periodically update the Gracenote Music Recognition Database, stored on the hard drive of the HDX.

To update the database:

1. Download the updated Gracenote Database .zip file from the support section of www.numark.com, and store it on your computer.
2. Connect the HDX to the computer via USB and power up the HDX.
3. Unzip the Gracenote .zip file to the root directory of the drive assigned to your HDX ("E:\\" for example). If asked to overwrite the existing Gracenote files, choose yes.
4. Once the file transfer is complete, disconnect your HDX from the computer.

Formatting Your Hard Drive

To format your hard drive, first obtain the newest firmware update, available in the support section of [Numark.com](http://www.numark.com). Because the firmware update is in "disc image" format, you must make sure you burn the firmware update CD by choosing the option in your burning software that allows you to create a CD from an image file. Since every burning program is different, you may need to refer to your CD burning software instructions to find out how to burn a CD from an image file.

Once you have created the firmware update CD, power up your HDX while holding the EJECT button. Insert the firmware update CD when the HDX prompts you to do so. Once the HDX recognizes the disc as a firmware update CD, select the "Install with Format" option. **This will erase the entire contents of the hard drive, including all of your audio files, playlists and the Gracenote database.**

Installing a New Hard Drive

You may want to use a different hard drive with your HDX, or have the ability to swap drives in and out of the unit. When inserting a new hard drive for the first time, follow this procedure:

1. Get the latest firmware update CD from the Numark website at www.numark.com.
2. With the HDX powered off, remove the platter, record, and record cap by unscrewing the spindle clockwise (note, it is reverse-threaded!).
3. Unscrew the hard drive locking screw which is directly above the hard drive caddy.
4. Remove the old hard drive caddy from the unit by pulling it out gently.
5. Insert the new hard drive caddy.
6. Replace the hard drive locking screw.
7. Replace the platter, record, and cap by screwing the spindle on counterclockwise.
8. Power the HDX on.
9. Insert the update CD and wait for the upgrade to complete.
10. Turn off the HDX using the power button. When it is completely off, turn it back on again.
11. At this point you may want to follow the instructions above to install the Gracenote Music Recognition Database.

Note: Never remove the drive from the unit while it is on! Always power off the unit before removing the drive.

Recovering From a Corrupted File System or Damaged Hard Drive

In the unlikely event that information on your hard drive becomes corrupted, the unit might not complete the boot-up process, or might appear to "hang" when you try to select a song. If this happens, try the following:

Connect the HDX to a computer via USB and run "checkdisk" on it. In Windows XP, you can do this by right-clicking on the HDX drive and selecting Properties. Then click on the Tools tab and click the "Check Now" button. This will attempt to fix the errors on your disc.

If that does not work:

Connect the HDX to a computer via USB and try to back up your music to your computer by copying the contents of the audio folder from the HDX to your computer. Keep in mind that this folder may be very large, so make sure you have enough free hard drive space on your computer.

After you have backed up your audio files to your computer, download the latest operating system from the Numark website and burn an operating system disk.

Power on the HDX while holding the eject button. The HDX will prompt you to insert a firmware update CD. Insert the firmware update disc and choose the "update with format" option. This will update or reinstall the operating system and format the hard drive, erasing all files from the hard drive.

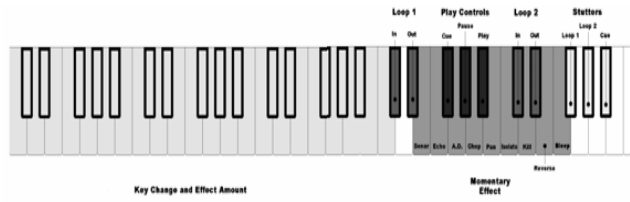
After doing this, turn the HDX off, reconnect it to your computer via USB and try to copy the audio data back to the HDX from your computer.

MIDI Specifications

MIDI Control

Description

Some controls can be accessed remotely via an external MIDI controller such as a computer or keyboard. The chart below shows which notes will trigger control of various HDX functions.



Setup

You will need a standard MIDI cable. Connect the MIDI OUT from your MIDI controller to the MIDI IN port of the HDX. Set the MIDI controller to transmit MIDI commands to the HDX on MIDI channel 6.

MIDI Sync

Syncing the HDX to an External MIDI Device

You can sync your HDX to an external MIDI device such as a drum machine, sequencer, computer, or any other device that transmits a MIDI clock signal. Connect a MIDI cable from the external device's MIDI OUT jack to the HDX's MIDI IN jack. Then turn on INTERLOCK on the HDX by pressing the MENU button, selecting "Playback Options", then "Interlock". Make sure you select "On" and press down on the track knob to select it. The HDX will then sync the tempo of the music to the MIDI clock information that it receives.

Syncing an External MIDI Device to the HDX

In addition to receiving MIDI clock, the HDX will also transmit MIDI clock, with the tempo determined by the current reading of the HDX beat counter. This allows you to sync an external MIDI device to your HDX. Connect a MIDI cable from the HDX's MIDI OUT jack to the external device's MIDI IN jack. The HDX will transmit MIDI clock to the external device, as well as MIDI start and stop commands. In this way, you can sync a drum machine or sequencer to the HDX.

Interlock

Interlock allows you to automatically synchronize the tempo of music playing on two HDX. You will need two standard MIDI cables. Connect the MIDI OUT from the first HDX to the MIDI IN of the second. Connect the MIDI IN of the first HDX to the MIDI OUT of the second HDX.

1. Turn on both HDX units.
2. Start one of the HDX playing. This will initially be the Master.
3. Start the other HDX playing. This will initially be the Slave.
4. On each HDX make sure the Beatkeeper™ is properly synced with the music. Use the Tap button if necessary.
5. On either HDX, you can toggle Interlock mode on and off by pressing the MENU button, selecting PLAYBACK OPTIONS, then INTERLOCK.
6. The slave HDX will sync its tempo to the Beatkeeper™ of the master by automatically shifting its playback speed.
7. Both HDX will flash their status ("Master" or "Slave") at the bottom of the display to indicate their current role.
8. As you make adjustments to the master unit's pitch, the slave unit will follow and attempt to match. Adjustments you make to the Slave's pitch slider will have no effect. The Slave's platter also will not affect playback, since playback speed is now controlled by the Master.
9. When you pause playback on the master while both units are playing, the master and slave will exchange roles.
10. If the position of the pitch slider on the new Master does not match the pitch it had been playing at, the screen will flash "Increase Pitch" or "Decrease Pitch" instead of "Master". This means you must move the pitch slider through the point corresponding to the pitch at which the HDX is currently playing before you will be able to use the pitch slider to adjust the pitch. The pitch display will show the direction and amount of adjustment needed to return the slider to the appropriate position. This is to prevent abrupt changes in pitch when you move the slider.
11. On the Master HDX, the Beatkeeper will show the beat of the slave as a flashing LED if the two HDX are not in sync. If the two HDX are in sync, the Beatkeeper LED will march normally with the beat.

Tips:

- If you select a new track using the track select knob, Interlock will be turned off on the HDX you selected the new track on. If that HDX was the Master, the other HDX will become the Master.
- If you press the Tap button once to correct the downbeat, Interlock will remain on. However, if you press the Tap button multiple times or hold the Tap button to correct the beat, Interlock will turn off on that HDX.
- As a result of the previous two notes, it is possible to end up with one HDX in Interlock mode while the other is not. If you use the "Single" and "Menu" key combination described above you must do it on the HDX that is not in Interlock mode. If you use the menu to turn Interlock on, it does not matter which HDX you do this on but you must press Select once you've turned on Interlock, even if "ON" is already displayed in the Interlock menu.
- The pitch slider, 33/45 button, Reverse and Bleep do not work on a HDX when it is in Slave mode.
- Moving the platter on a HDX that is in Slave mode has no effect.
- You can not enable Interlock if either HDX Beatkeeper has not yet synced.
- Brake time should work properly at all times but Start time will not work on a HDX that is in Slave mode. If the HDX is in a mode where the playback is not controlled by the pitch slider then there may be a noticeable jump in pitch when Pause is pressed. This is more noticeable for longer brake times.
- When Interlock is turned on, Key Lock will automatically be enabled. You can turn Key Lock off normally.
- When Interlock is turned on, Smart Loop will automatically be enabled. You cannot turn Smart Loop off while Interlock is on, because it would then be impossible to sync the music.
- If the two HDX are out of sync by a constant amount for an extended period of time, reset the Beatkeeper by pressing the tap button once on the downbeat of the music

Troubleshooting

Unit will not power up

Make sure the power cable is connected and power is being supplied to the unit. Make sure there is a hard drive in the unit.

“HD Not Detected” message appear on power up

Make sure there is a drive in the unit. If there is a drive in the unit, shut the unit down, remove and re-insert the drive to make sure it is connected properly.

Unit gets stuck in the “Importing” or “Checking Filesystem” stage of bootup

Please note that it can take significant time to import huge amounts of music into the HDX’s database. As a reference, importing 5,000 tracks may take up to 15 minutes to complete. Additionally, if the HDX is shut down by means other than the HDX power switch (i.e. an outlet strip), the entire filesystem must be checked for corruption. On a full 80G disk, this may take up to 15 minutes. Assuming you have waited a reasonable amount of time, here are a few possibilities to consider:

The HDX operating system requires that there is at least 100MB free on the harddisk. The HDX can hang if this requirement is not met. If this situation occurs, remove some music from the harddisk via USB and reboot.

Another possibility is that the system directory on your disk could be damaged due to abrupt poweroff during disk activity. See “Recovering From a Corrupted File System Directory” for more information.

Unit gets “hung” when a song is selected and displays the “rotating HDX” logo forever

The file system directory on your disk could be damaged due to abrupt poweroff during disk activity. See “Recovering From a Corrupted File System Directory”.

There are gaps or glitches in the audio playback

Some commercially-available CD’s are copy-protected. This means the manufacturer has intentionally inserted a large number of errors on the disc, which makes it hard to play back on a computer, while fine to play back on a regular CD player. This could interfere with the HDX’s ability to play or rip these files.

If the TOC (Table of Contents) has not yet been generated for the WMA or VBR MP3 file that you are playing, glitches may occur during playback. Rip these songs onto your hard drive and wait for the unit to generate TOCs for these as a background process before playing them.

Error messages or crashes during ripping or encoding

If you see a high number of error messages or the unit crashes frequently, the files or database on the hard drive may be damaged or corrupted. This could be caused by errors due to improper shutdown of the HDX. It is very important that you always use the power button on the HDX to shut down the unit.

Do not pull the plug out of the wall or use any external outlet strips to turn the unit off.

If the information on the hard drive appears to be corrupted, the best way to try to fix it is to connect the HDX to a computer, back up the audio files to your computer and reformat the HDX drive using the process described on the “Utility Features” page of this manual.

A CD is stuck in the unit

If a CD is stuck and will not eject when you press the EJECT button, power off the unit, and unplug the power cable. You’ll need a special tool which looks like flat-head a screwdriver with two prongs (Philips ECG part number CR1833T, transport adjustment tool). On the bottom of the unit there is an access hole under the CD player (next to the bar code label). Insert the tool and turn it clockwise. It will take a few dozen turns to fully eject a disc.

Gracenote Music Recognition Service



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SPECIFICATIONS

MOTOR

TYPE: Heavy duty turntable motor with 12" aluminum platter
WOW/FLUTTER: 0.15% max
SPEEDS: 33, 45 RPM
BRAKE TIME: 0.25 to 8 sec
START TIME: 0.25 to 6 sec
INSTANTANEOUS TORQUE: 4.7 kgf cm

POWER SUPPLY

TYPE: Internal transformer with voltage selector switch, internal switching power supply
CONNECTOR: Standard IEC
VOLTAGE: AC 115V/230V ~ 50-60Hz
CONSUMPTION: 40W

CD PLAYER

TYPE: IDE slot-load, 8X minimum speed
MEDIA: CD, CD-R, CD-RW, MP3 CD

HARD DRIVE

TYPE: 2.5-inch x 9.5mm IDE laptop hard drive, ATA-6, 8192kB data buffer, 4200RPM minimum
MOUNTING: M3 screws

AUDIO

ANALOG OUTPUT: 1.3V RMS +/- 0.2V
HARMONIC DISTORTION: Less than 0.02%
SNR: More than 85dB
SEPARATION: More than 85dB
DYNAMIC RANGE: More than 80dB
OUTPUT LEVEL: 1.3V +/- 0.2V (1KHz 0dB)
CHANNEL BALANCE: +/- 1dB
FREQUENCY RESPONSE: 20-20kHz
DIGITAL OUTPUT: Type 2, form 1, S/PDIF

PHYSICAL

DIMENSIONS: 14.5" by 17.75" by 5.25" (368mm by 450mm by 130mm)
WEIGHT: 22.0 lbs (10kg)

Specifications are subject to change due to ongoing improvements.



User Manual Revision 3.0