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You can read the recommendations in the user guide, the technical guide or the installation guide for M-AUDIO TORQ 1.5 UPGRADE. You'll find the answers to all your questions on the M-AUDIO TORQ 1.5 UPGRADE in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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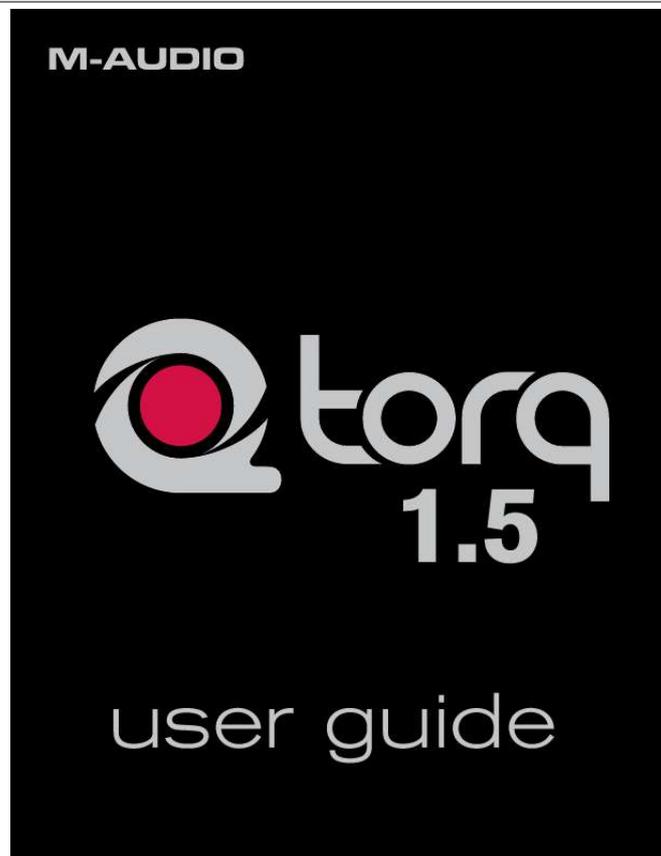
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Manual abstract:

Exercising this level of control upon your collection of songs is a task that has many facets, and Torq addresses each of these with a specialized array of controls and features that are cleverly arranged and accessed throughout the user interface. This section will give you an overview of these features and how they contribute to your arsenal of digital mixing tools and techniques. DJing begins with music, so you will get to know Torq's Decks very well. A Deck is what Torq uses to play back a single digital music file and is analogous to the turntable or CD player used by DJs. The Deck allows you to play a track, change its speed and its key, as well as rearrange it by looping and jumping to new locations within the song. Torq is equipped with two of these Decks--one on each side of the screen. While being interesting to the eyes in their own right, waveform displays can be an invaluable tool when DJing. Torq's user interface is dominated by two such waveforms at the top-center of the screen, one corresponding to each of the Decks. Use these scrolling waveforms to check the synchronization of tracks, locate sounds, predict breakdowns, edit Tempo Anchors, and much more. It's all in the mix, or so they say, and Torq's Mixer delivers the goods.

The Mixer takes the audio from the two Decks and gives you control over what can be heard by means of volume controls, audio equalizers, and a crossfader. DJs commonly listen to a track on their headphones without letting their audience hear it. This allows them to match the tempo of the new song to the current one, along with finding the correct starting position for the song. Torq will allow you to monitor either Deck on headphones, preview music from the Browser, and also features a stereo headphone split normally reserved for high-quality DJ mixers. There is a third ingredient to DJing, and that's music--lots of music. To help you stay on top of your massive music collection, Torq features a Database for cataloging and searching tracks. It will monitor your favorite folders and allow you to create playlists for future performances. Effects are a great way for you to manipulate (or mangle) your music in unique ways to enhance your mix. You can use up to three of these effects on each Deck, and you can also expand your collection using widely-available VST plug-ins. A Sampler can be thought of as a miniature tape recorder.

It can record a short segment of sound, and then play it back on command at varying speeds and volumes. DJs use samplers to add additional sounds into their mix like vocal drops, crash cymbals, boomy bass drums, and sound effects. Torq has a 16-cell sampler that can play audio files and record loops that play in perfect sync with your mix. DJing is done with the hands, but you may find that your mind wants to hear more than your two hands are capable of. To surmount this obstacle, Torq allows you to combine multiple movements, such as button presses and knob tweaks, into one grand gesture called a Snapshot that can be triggered by a single keypress. torq manages a collection of Snapshots that can be recalled interchangeably , even in rapid succession. The Snapshots can even be layered together to create massive changes in your mix. Torq features an automatic output limiter that will keep your music from distorting as well as a module for recording the final mix to a file as you play. You can then burn the results onto a CD or convert them to MP3 for Podcasts. 4 GHz (or greater) RAM: 2 GB USB: One available port (for use by approved M-Audio Hardware Device) System Disk: 7200RPM or faster Secondary Dedicated Audio Hard Drive: 7200RPM or faster 8 GHz (or greater) RAM (32 bit Vista): 2 GB RAM (64 bit Vista): 4 GB USB: One available port (for use by approved M-Audio Hardware Device) System Disk: 7200RPM or faster Secondary Dedicated Audio Hard Drive: 7200RPM or faster Windows Experience Index of 4.

4 GHz (or greater) RAM: 2 GB USB: One available port (for use by approved M-Audio Hardware Device) Secondary Dedicated Audio Hard Drive: 7200RPM or faster Minimum System Requirements reflect the ability to run Torq using a basic feature set. Mac users are strongly advised to pre-analyze all audio files prior to use in Torq. â· Mac G4 users are advised to not open the Timecode Preferences Dialog while streaming more than one Timecode source into Torq, as this may degrade G4 performance. Note: The following directions are for installing the Torq software onto your computer. Torq will not run, however, unless an appropriate M-Audio hardware device (such as the Conectiv interface) is installed and plugged in to your computer. Please follow the installation instructions provided with your hardware device before launching Torq. (If you are using Windows Vista and see an Autoplay dialog window, click "Run autorun. Select "I accept the agreement" then choose "Next. If you would like to install Torq in another location, click the "Browse" button and choose a new location. You will be asked where Torq should install the application shortcuts in the Windows Start menu.

If you are not familiar with this, leave the default selection and choose "Next. This icon is used to quickly launch Torq directly from your desktop. Make your selection and choose "Next. Confirm your install settings and choose "Install. When Torq is finished installing, choose "Finish.

If you are using Windows Vista, "My Computer" will be labeled "Computer" in this step. Choose "Agree" from the drop-down dialog box. " Note: By default, the "Applications" folder on your main hard drive will be selected; if you would like to select another folder, click "Choose" and make a selection. You will be presented with a dialog box asking for your serial number. 2.

Your serial number is on a printed card (included in boxed versions of Torq) or was sent to you electronically (for online upgrades). If you have not purchased a serial number, click the "Buy" button and Torq will point your default web browser to the M-Audio Webstore. 3. Type your serial number into the dialog box and click OK. 4. Torq is now unlocked and ready to use. When DJing, everything begins with the Decks. The Decks will play the music that you'll mix and effect using all the tools in Torq. traditionally , a DJ's decks will be turntables or CD players. Therefore, the Decks in Torq have been designed to emulate both turntables and CD players, as well as offering a special hybrid mode only possible with software.

These are mostly for relaying information to you, such as which song is playing, how long it's been playing, and how much time is remaining. song Name At the top of the Deck is the name of the current song. The name is taken from the song category (seen in the File List). If there is no song name listed in the File List, the name of the actual file will be shown instead. artist Name Below the Song Name is the Artist Name.

Like the Song Name, above, this field will be empty if there is no entry in the Artist category of the file. Time Elapsed This is the current location of the song, marked by the yellow Now Line in the Overview Waveform Display. the Time Elapsed is expressed in hours/minutes/ seconds/frames (30 fps). When the Current Position Marker is at the beginning of the song, the Time Elapsed will be 0:0:0. 0.

Instant Doubles Using the mouse, you can click and drag the song name from one Deck to the other. Doing this will copy the song to the other Deck and will match playback locations and speed, thus allowing you to juggle the two songs. This function can also be triggered using the computer keyboard or an external MIDI controller. Time Remain This field indicates how much time is left before the song ends. At the beginning of the song, the Time Remaining will be the same as the entire length of the song.

When the Deck is playing, the Time Remaining will count down. Note: The Overview and Scrolling Waveform displays will begin to flash red when there is less than 30 seconds remaining in the song. This is to notify you that you'd better get ready with another song to play! Overview Waveform Each Deck includes an Overview Waveform display which shows a miniaturized version of the song's waveform in its entirety. This display serves several purposes: 1. It allows you to see where the breaks and builds are in a song before they happen.

The yellow Now Line indicates your current location within the song. White QuickCue points and green Tempo Anchors (described later) will be superimposed over this waveform. You can click anywhere in this waveform and playback will jump to that location. As mentioned before, the purpose of the Deck is to play a music file, similar to how iTunes or WinAmp plays files on your computer. However, in the scope of DJing, things don't stop there. A DJ needs to be able to control the playback of the music with greater detail, such as changing the speed and/or key of the song, looping sections of audio, and jumping to other locations within the song. This allows the DJ to match tempos of various songs during a mix, or to re-arrange the song (in essence, creating a live remix of the song). The Torq Decks accomplish these tasks using the controls described below. Play/Pause Songs are played and stopped by clicking the Play/Pause button. Simply load a song into the Deck and press Play/Pause to start it.

press Play/Pause again to pause the music. Note: When you pause the music, the song will not return to the beginning--it will stay in the same location as when you stopped it. If you want to return to the beginning, use the Seek controls described below. Seek The Seek buttons are used to skip forward or backward through the song, allowing you to find certain points (or beats) within the song from which you can start playing. If you click briefly on the Forward or Backward buttons, the music will jump only slightly in that direction. If you click and hold one of these buttons, Torq will scroll through the song, going faster and faster as long as you hold the button. scrolling will stop when you release the button. To jump to either the beginning or end of the song, hold the Shift key while clicking Seek buttons. A Cue Point is a reference position within the track that you can jump to instantly, rather than having to seek through the track to find it. Typically, a DJ will set the Cue Point where the beat begins in a song.

If a song is playing, pressing the Cue button will make the song jump to the Cue Point and will pause there. If Cue is pressed and held again, the music will begin playing from the Cue Point. The music will stop playing when the Cue button is released and the song will jump back to the Cue Point. If a song is paused in a location different from the Cue Point, pressing the Cue button will set the Cue Point to the current location. If you hold SHIFT and press Cue, a Cue Point will be placed at the current location, even if the song is already playing.

If you hold Cue and press the Play/Pause button, the music will continue to play after you release both buttons. QuickCue In addition to the primary Cue Point described above, Torq allows you to set up to five QuickCue Points in a song that are assigned to the QuickCue buttons below the Overview Waveform display. These buttons can then be used to quickly jump between the various QuickCue points. Torq will save the locations of the five QuickCue points with each song so they will be available the next time you play the song. < Setting QuickCues There are a few different ways to set QuickCue Points, but all methods deliver the same results.

A QuickCue Point will be set at the current location (this can be done while the Deck is playing or paused). Again, the QuickCue Point will be set to the Now Line, whether the Deck is playing or not. when added , the QuickCue will be visible in the Overview Waveform display. Note: If Quantize is turned on in Torq's Toolbar, new QuickCue points will be aligned to the nearest 16th-note in a song. Note: If you try to assign a QuickCue to a button ker. The music will now loop between these two points indefinitely. 4. When you're finished looping this section of the song, you can click the Loop On/Off button to turn it off. Now, when playback reaches the Loop Out Marker, it will simply pass it and proceed playing the rest of the song. Note: If you reposition playback using one of the QuickCue buttons while Looping is activated, playback will jump to the new location.

Torq will then automatically place the Loop In Marker at that point and will place the Loop Out Marker in a position to maintain the same loop length in use prior to pressing the QuickCue button. < Loop Out Preference By default, Torq will always quantize the position of the Loop Out marker to a location that results in a quantized 16th-note length from the position of the Loop In marker. This requires that you press the Loop Out marker within a 16th-note of where you want the loop to end. Torq has a second Loop Out mode that will make it easier to achieve even loops without having to press the Loop Out button with 16th-note accuracy: 1. Switch the Loop Out mode from "16th" to "Smart" and close the preferences. Now, when you press Loop Out, Torq will place the Loop Out marker at a position that is a multiple of 2 in length from the Loop In marker. In other words, Torq will only allow you to make loops with the lengths of 1 beat, 2 beats, 4 beats (1 bar), 2 bars, 4 bars, 16 bars, etc. < Loop On/Off The Loop button will indicate whether Torq is looping audio or not. Whenever this button is illuminated, Torq will be looping something, whether triggered with one of the QuickLoop buttons or set manually with the Loop In and Loop Out buttons. < QuickLoop More often than not, a DJ will loop audio that is an even number of beats or bars. That is, they will loop a single bar (four beats) or two bars (eight beats), or may do micro-loops of only one or two beats.

Instead of having to quickly press the Loop In and Loop Out buttons to create loops of these lengths, Torq provides one-button access to these loops via the QuickLoop buttons. Â» Using QuickLoops The QuickLoop buttons allow you to instantly loop a section of a song by a preset length. By default, each of the four buttons represents a different bar length; one bar, two bars, four bars, and eight bars. Simply press one of these buttons at the beginning of the section you want to loop and Torq will automatically place the Loop In and Loop Out Markers in the appropriate locations: 1.

Load a song into a Deck and press play. Furthermore, the Loop Out Marker will be placed exactly one bar later and the song will begin looping a perfect bar. Playback will now proceed beyond the Loop Out Marker. Â» QuickLoop Size Preference As mentioned above, the default loop lengths for the four QuickLoop buttons are one bar, two bars, four bars, and eight bars. The QuickLoop Size preference allows you to change the QuickLoop buttons to beat values instead of bar values: 1.

Click the arrow next to QuickLoop Size option and choose "Beat" from the drop-down list. Now, when you use the QuickLoop buttons as described above, you'll find that they capture loops of one beat, two beats, four beats, and eight beats in size. Â» Changing QuickLoop Lengths Along with being able to capture loops of a specific size, the QuickLoop buttons also allow you to change the size of the loops after they have been made. Torq has two methods for changing QuickLoop lengths which are selected from the Preferences: 1. When this mode is selected, each additional press of a QuickLoop button will cut the current loop length in half. For example, if you press QuickLoop 4, Torq will grab a 4 bar loop. pressing QuickLoop 4 again will result in a 2 bar loop. Press it again and you'll get a 1 bar loop. If you hold SHIFT while pressing the QuickLoop button, the loop will grow in size--doubling in length with each press of the button. Direct mode resembles the behavior found on some DJ CD players.

When selected, the QuickLoop buttons will become divisors once a loop has been captured. Pressing QuickLoop 1 will reset the loop back to its original length (4 bars / 1 = 4 bars). Â» Pre-Loop You can also reverse the behavior of the QuickLoop buttons by holding Shift when you create a loop. If you do this, Torq will place the Loop Out marker at the current playback location and will set the Loop In marker at the indicated number of Bars or Beats (depending on the QuickLoop Size preference) before the playback location. Using this feature, you can loop sections of audio that just played. For example, to repeat the last 2 bars of music that played, hold Shift and press/click QuickLoop 2. Speed Slider Torq's Decks are each equipped with a Speed Adjust slider for the purpose of beat-matching songs. This slider behaves just like the pitch adjusters found on DJ turntables and CD players. As you move this slider, the neighboring ADJ display will show how much the song's speed is being altered (expressed as a percent where 0% is the original speed of the song) and the BPM display will change to show the new tempo of the song. For those not familiar with these controls, your first impression may be that the slider is working backward since the speed of the song will increase as you move the slider down on screen.

However, this is the proper behavior for pitch controls found on DJ turntables and CD players. It makes sense if you consider the following: Therefore, when you use the slider, you either push it away from you or pull it towards you. When a song is going too fast, you push the slider away from yourself, just as if you put out your hand in a "slow down" motion. If you need the song to go faster, you pull the slider toward you, similar to how you would gesture towards yourself if you wanted someone to move quickly. After a few hours of practice, this "backward" response will feel natural.

< Slider Range By default , the range of the Speed Adjuster is +/- 8%. That means that if you move the slider to either of its extremes, you'll only get an 8% change in the speed of the song. To the left of the Speed Adjuster is a display showing the current range setting for the slider: You can change the range of the Speed Adjuster by clicking on this range display. Each time you click, the range will advance to the next highest setting. The order is: 8%, 10%, 20%, 50%, then 100%.

When you click the display again, the range will "wrap around" back to 8%. You'll only need to increase the range when you're trying to match two songs with very different tempos, or when you want to perform an extreme speed change as a special effect (especially effective when the range is set to 100%). Most experienced DJs will simply match the tempos of two songs by hand using the Speed Adjust slider, which is a perfectly acceptable method of matching songs (indeed, this is the way it's been done for decades). Since it requires a lot of practice to hear when one song is playing faster or slower than another, those new to DJing will benefit from some of the extra features built into Torq. < BPM Display Tempo is a measurement of the speed of a song and is normally expressed as Beats Per Minute (BPM). As the BPM increases, the speed of the song increases. In order for two songs to be mixed together with their beats aligned, the two songs will need to be playing at the same tempo. This is why Torq's Decks are equipped with Speed Sliders. In the event that you are trying to mix two songs with different tempos (which happens more often than not), you will need to use the Speed Sliders to match the tempo of the new song to the tempo of the current song. Â» Automatic BPM Detection Any time you load a new track into a Deck, Torq will analyze it and attempt to determine the tempo of the song.

For most dance music, Torq will be able to determine the tempo accurately. Once scanned, the tempo of the song will be shown in the BPM display for the Deck, which is located just to the left of the Speed Adjust slider. note: Determining the tempo of a song is a complicated process for a computer. While Torq's beat-detection system will usually provide accurate results when set to its default settings, some types of complex music can confuse the beat-detection system resulting in incorrect tempos. To increase the accuracy of the beat-detection in these cases, you can specify the type of music you'll be using in the Preferences menu thus limiting the tempo range used by the beat-detection system. Be sure your selection matches the type of music you're trying to analyze. If you have "Drum & Bass" selected as your style and attempt to analyze a trip-hop track, Torq will give you the wrong tempo. You can then change the music type and re-analyze the song if needed. The BPM shown here is a "living value"--it will change when you alter the speed of the song with the Speed Adjuster.

This is extremely helpful when trying to synchronize two songs since you'll be able to match the tempos of the two songs just by matching the BPM values shown in the displays.

Â» Double/Halve Button When Torq incorrectly identifies the tempo of a song, it will often return a result that is a multiple of the actual tempo. This occurs frequently when using Drum & Bass tracks with tempos in the neighborhood of 174 BPM. Torq may think that the tempo of the song is 87 BPM or 116 BPM. When this happens, you can quickly adjust the tempo using the Double/Halve button. This button works by applying a multiplication factor to the current BPM.

The first time you press this button, the up arrow will light and the tempo of the current song will be multiplied by 1. 5 (the multiplication factor will be shown in the Tooltip). If the song was detected as 116 BPM, it will now show 174 BPM (116 BPM x 1. 5 = 174 BPM). The second time you press this button, the multiplication factor will increase to 2.

If the song had been detected as 87 BPM, it would now show 174 BPM (87 BPM x 2 = 174 BPM. the multiplication factor will continue to increase in . 5 steps each time this button is pressed. This button can also be used to divide the current BPM by the same amounts on the occasion that Torq detects a BPM higher than it should be. Simply hold the SHIFT button when pressing the Double/Halve button to move downward through the sequence of factors. If you decrease the factor to a point where the new BPM is less than the detected BPM, the down arrow will be lit on the button. Â» Manual Tempo Adjustment As mentioned above, Torq can determine the tempo of most dance music. Some music, however, is too complex or not repetitive enough for Torq to detect the tempo with precision. Fortunately, you can help Torq to determine the proper tempo through a number of different methods. At times like this, you'll want to use the Tap Tempo feature to determine the tempo of the song while it plays.

1. While the song is playing, click on the BPM display with each beat that you hear. The more taps you provide, the more precise the calculation will become. Note: If at any time you wish to revert back to the automatically determined tempo, hold the Shift key while clicking on the BPM display. This will also clear any Tempo Anchors if any have been created. Tap Tempo cannot be used if there are Tempo Anchors in a song. Â» BPM Entry If you happen to know the BPM of the song, you can manually enter it into the BPM display, thus overriding the tempo detected by Torq. Type in a new BPM value from your computer keyboard and press Enter. 3. The new BPM will then be set for the song.

Note: If at any time you wish to revert back to the automatically determined tempo, hold the Shift key while clicking on the BPM display. This will also clear any Tempo Anchors if any have been created. Â» Tempo Anchors Torq provides you with another alternative in the event that none of the above methods provide an accurate BPM for the song, or when the song contains tempo changes. Torq will allow you to create a custom tempo map for a song employing a feature called Tempo Anchors. Key The Key Adjust is used to raise or lower the key (pitch) of a song without changing the tempo.

This is useful when attempting to match the melodies of songs in both Decks during a mix, known as key-matching. You can adjust the key of a song with the Key Adjust buttons or by dragging the up or down on the Key Display. Note: To reset the key transposition to 0, hold down the Shift key on your computer keyboard and click on either of the Key Adjust buttons' Key Displays. If you have adjusted the key in finer increments, the key will be reset to 0, however the fraction will remain. For example, if the key is 4.

< Key/Speed Lock The Decks in Torq have the special ability to change the playback speed of the song without changing the pitch of the song (this is known as time-compression and time-expansion). This means you don't have to worry about music changing pitch as you beat-match. However, if you would like to disable this feature and essentially lock the Key and Speed of the music together, turn on the Key/Tempo Lock button. With this on, the music will behave like a regular vinyl record (slowing down the music will make the music drop in pitch). < MIDI Slider/Knob Control MIDI control of the Key Adjust is different from other controls in Torq. You can assign a knob or slider to the Key Adjust, or you can assign keys on your MIDI keyboard--the behavior of the Key Adjust is dependent on your control method. 1. Make sure that your MIDI keyboard or control surface has been properly installed and is configured to work with Torq. Please see chapter 6 for more information about configuring your external MIDI hardware to control Torq. 2.

Right-click (CTRL-click, Mac) on the Key Display; it will turn red indicating that it's waiting for an assignment. 3. Move a MIDI knob or slider on your MIDI controller. This generally means when the knob or slider of your MIDI controller is at center position, the Key will be at 0. < MIDI Button Control 1. Make sure that your MIDI keyboard or control surface has been properly installed and is configured to work with Torq. Please see chapter 6 for more information about configuring your external MIDI hardware to control Torq. It will turn red indicating that it's waiting for an assignment. It will turn red indicating that it's waiting for an assignment. Now that your buttons are assigned, press the button assigned to [+].

Now press both buttons simultaneously. Make sure that your MIDI keyboard or control surface has been properly installed and is configured to work with Torq. Please see chapter 6 for more information about configuring your external MIDI hardware to control Torq. It will turn red indicating that it's waiting for an assignment. 3.

Press a key on your MIDI keyboard. If you press a MIDI key that is 1 semitone ABOVE the root key, the Deck's Key will be changed to +1 (semitones). 5. If you press a MIDI key that is 2 semitones BELOW the root key, the Deck's Key will be changed to -2 (semitones). This makes it possible to control the Key Adjust of both Decks using a single MIDI controller keyboard, as long as the keyboard has enough keys to make up four (4) octaves.

Note: Torq will allow notes from the same controller and same MIDI channel to be used as long as the root keys are at least two octaves apart. < External Control When using external Vinyl or CD control, Torq will preserve the pitch of the music even if you change the speed of the turntable or CD player. When you scratch, Torq will disable time-stretching and will re-enable it when you let the music play again. If you want Torq to respond like a true vinyl record, turn on the Key/Speed Lock button so that key and speed are locked together. You will then hear pitch changes when altering the speed of the turntable or CD player.

Sync Button The Sync button provides an automatic method of synchronizing the beat and BPM of one Deck to the other or the Global Tempo. When you engage Sync on a Deck (the Sync icon is on), it will change that Deck's tempo to match the other Deck or Global Tempo. Furthermore, when you press Play, Torq will align the song to the phase of the other Deck or Global Tempo. Essentially, the Synced Deck will be "slaved" to the other Deck (which would be the "master"). Sync will remain active until you turn it off by clicking the Sync button again.

While Sync is active, the Deck will be affected by tempo changes made to the opposite Deck or Global Tempo. If you slow down the "master" Deck, the "slaved" Deck will also slow down in kind. If you attempt to scratch or re-align the "slaved" Deck, Torq will automatically snap it back into alignment to match the phase of the "master" Deck. Tempo Master Torq also has the ability to use a Deck as a Tempo Master for the entire program. Simply hold SHIFT while pressing the Sync button on a Deck. When doing this, you'll see that the Sync button starts to flash, indicating that it is the Tempo Master. additionally , the Global Tempo will be activated and will follow the tempo of the Deck. With a Deck set as the Tempo Master, all other aspects of the program will follow its tempo even if there are tempo changes (set with Tempo Anchors). looped samples will follow the Deck. The opposite Deck will also follow if its Sync button is turned on.

When you turn Sync off on a Deck, it will keep the tempo setting allowing the song to keep playing in time with the other Deck. However, Torq will no longer attempt to keep the two Decks in sync if you make changes to them. Torq will no longer snap the songs back into alignment if you move one of them, nor will Torq continue to match tempos if you change them. Note: Setting a Deck as a Tempo Master is the only way to hear the original timing of the song after adding Tempo Anchors. Nudge Buttons If you're not taking advantage of Torq's ability to keep tracks aligned using Sync, you can do it manually using the Nudge buttons.

If you hear a song become ahead or behind the other, the Nudge buttons will allow you to push the song back into alignment by creating a small change to the playback speed of the song. If the song is ahead of the beat, press the right Nudge button to slow it down. You'll see the waveforms of the two songs move in relation to each other. Release the Nudge button once the songs are aligned properly and the original playback speed will be restored. Note: The behavior of the Nudge buttons can be reversed in the Preferences if you prefer the song to speed up when pressing the right Nudge button.

Offset Buttons Sometimes when mixing two songs together, you may find that the beats are aligned with each other, yet the two songs are still out of phase. This is most obvious when one song is offset by one beat, causing the snare drums of the tracks to be out of alignment. The Offset buttons can be used to correct this. Pressing these buttons will make the Current Song Position jump forward or back by one beat-length. Note: : If you have the Sync Mode set to "Bar" in the Preferences/Toolbar, the Offset buttons will have no effect when the Deck's Sync button is on. This is because Torq will counteract a one-beat offset when set to Bar mode. If you want to offset the music by one beat when Sync is on, you'll need to offset the Phase Grid (which is explained later in the section titled "Synchronization"), or switch Sync Mode to "Beat. One of the most prominent features of the Torq user interface is the Scrolling Waveform Display, which takes up a decent amount of real estate above the Mixer and Effect Racks. Unlike the smaller Overview Waveforms found in each Deck, the Scrolling Waveforms only show a few seconds of the current song before and after the current play position. While the Now Line moves from left to right within the smaller Overview Waveform Display as a Deck plays, the Now Line remains fixed in the Scrolling Waveform window while the waveforms move behind it.

So what purpose do these Scrolling Waveforms serve, other than looking really cool? Answer: They offer you a way to visualize the alignment and synchronization of the two Decks as well as providing some other important information: Waveform By looking at the audio waveform itself, you can see where the beats are in the song. These sharp hits (transients) typically look like long, thin spikes in the waveform. In the picture below, you can see the heavy bass drum beats of both songs in the Scrolling Waveforms. When the drums stop, you'll notice that the tall spikes go away. This is how you can tell if a breakdown or slow section of the song is approaching. By the same token, you'll also be able to see where the drums come back in again. Zoom At times, you may find yourself wanting to "zoom in" to the Scrolling Waveform Display to match beats more precisely or to "zoom out" in order to see more of each track. Use the magnifying glass icons directly above the display to do this. The magnifying glass button on the left zooms out while the button on the right zooms in. The total amount of time (in seconds) from the left edge to the right edge of the Scrolling Waveform Display is listed between the two buttons.

Loop Points The Loop Points of the song (set with the Loop In/Out buttons or the QuickCue buttons) will be shown on the Waveform. The looped area of the music will appear in a lighter shade compared to the rest of the waveform. Cue Points If you've used the Cue button or QuickCue buttons to place various Cue Markers in the song, you will see them here. The QuickCue markers have numbers attached to them (corresponding to the assigned QuickCue button) and the standard Cue Point appears as an orange line. Torq will attempt to position the Phase Grid in the proper location as part of the analysis when loading a song into a Deck.

torq uses the position of the Phase Grid to properly synchronize the song. If you would like to turn the Phase Grid lines off, click the "Hide Phase Grid" button located above the waveform display (next to the zoom controls). Tempo Anchors In addition to its automatic BPM detection features, Torq provides you with another alternative for BPM matching that becomes an indispensable tool when working with songs that include tempo changes or fluctuations (Torq's automatic beat detection is designed to work with songs that have a constant tempo). Using Tempo Anchors, you can manually specify the location of beats within a song thus allowing Torq to follow the tempo of any song even if it speeds up or slows down in the middle. Editing Tempo Anchors is a more involved process and should therefore only be used in the event that none of the normal methods yield the proper results.

Tempo Anchors are edited within the Scrolling Waveform window and should be done at the highest zoom factor so you can place the Anchors accurately.

Furthermore, this is more of an "off-line" process--you should prepare a song with Tempo Anchors before trying to play it to an audience. Torq will save the Tempo Anchors in the TQD file so that you will only have to do this once for any particular song. Use the Tap Tempo feature to determine the approximate tempo while the song plays. This is very important since this will get the Phase Grid close to the proper position leaving only minor edits for you to do later. Stop the song and rewind back to the beginning. Hold SHIFT and drag the Phase Grid so that the downbeat (the thicker line) is aligned with the first visible beat of the song. This will ensure that the Phase Grid starts at the right location--you will only need to use Tempo Anchors to fix issues where the Phase Grid drifts out of alignment. Now, search through the song looking for places where the Phase Grid no longer aligns with the beats of the music. When you find one that is out of alignment, double-click it.

The line will change from grey to green indicating that the grid line has been turned to a Tempo Anchor. Now that the grid line has been converted to a Tempo Anchor, you can now move it left or right until it aligns with the beat. Simply click-and-drag the Anchor to set it to a new location. Repeat steps 6 and 7 until all of the tempo anomalies have been accounted for. When complete, every grid line and Tempo Anchor should visually align with the beats in the song. Now, when you play the song, it will play with a constant tempo (the tempo variations will be removed) Some will say that editing Tempo Anchors is more of an art than a science. Indeed, there are other techniques that can be used other than the steps listed above which will give the same results. As you edit more and more songs, you'll learn which techniques are best for various types of music. Here are a few other methods that can assist with Tempo Anchors: 1. tap Tempo Anchors.

If you try using Tap Tempo when Anchor Edit is on, each tap will place a Tempo Anchor at that location. If you're working with a song that has lots of tempo changes (such as older music that was not recorded to a click track) this can be very advantageous. Just tap along with the music and the Phase Grid will be pretty close to where it needs to be. You can then manually adjust any of the Tempo Anchors that need it. While you could surely turn every single grid line into a Tempo Anchor, this is usually not necessary.

Often, long sections of a song will have a consistent tempo. In these cases, it's usually enough to place a Tempo Anchor at the beginning and another at the end of that section. All the grid lines will distribute themselves evenly between the Tempo Anchors. From time to time, you may notice that a song seems perfectly in sync then suddenly falls out of sync. This can be due to corruptions within the audio file.

Torq will skip over sections of data that are corrupted and will continue to play the remainder of the song. Every time Torq skips over corrupted data, it will make the Phase Grid look like it has shifted to the right. In cases like this, you can use Tempo Anchors to adjust the tempo only where the jump occurs. Simply make two Tempo Anchors-- one right before the jump and one right after. Drag the second Anchor to the left until it is aligned with the beat. All of the grid lines to the right of the last Anchor will shift as well so the remainder of the song will then be in alignment (unless there is another corruption). The Waveform Display allows you to manipulate the song playback in a variety of ways using your mouse. the method of control differs depending on the control type you have selected for the Deck (Vinyl/CDJ/Hybrid). Vinyl Mode With this mode selected, using the mouse on the waveform will work in a similar fashion to using your hand on a turntable. Playback will stop, as if you have placed your hand on a record to stop it.

Continue holding the mouse button, then drag the mouse left and right. this will scrub , or "scratch ," the song. Releasing the mouse button will cause the Deck to play the song back from the current location. Hybrid Mode With Hybrid mode active, the waveform will respond exactly like the CDJ mode while the Deck controls (Play/Pause, Cue, etc. The music will continue to play While holding on the mouse button, drag the mouse left. The playback tempo will be momentarily increased, making the waveform scroll a little faster to the left. now hold and drag the mouse to the right. Playback will remain going forward, but the tempo will be slowed slightly, resulting in a waveform that still scrolls right to left, but at a slower rate. As soon as you stop dragging, playback will return to its original tempo even if you are still holding the mouse button. CDJ Mode With this mode selected, the waveform will not be "scratched" with the mouse.

Instead, mouse movements will simply nudge the music ahead or behind by a small amount. The music will continue to play While holding on the mouse button, drag the mouse left. The playback tempo will be momentarily increased, making the waveform scroll a little faster to the left. now hold and drag the mouse to the right. Playback will remain going forward, but the tempo will be slowed slightly, resulting in a waveform that still scrolls right to left, but at a slower rate.

As soon as you stop dragging, playback will return to its original tempo even if you are still holding the mouse button. At most of today's dance clubs and events, the DJ will mix the songs together using a technique called beat-matching. The goal is to fade the volumes between two songs while keeping them perfectly in beat with one another. If done properly, the audience will never have to stop dancing as the beat of one song will blend in with the beat of the new song--sounding like one single song. DJs will do this for hours at a time, creating one gigantic non-stop mix from the individual songs they have in their collection.

Proper execution of this technique requires the mastery of two tasks: matching tempo and matching phase. As mentioned before, tempo is the measurement of speed of a song expressed as BPM. Phase refers to the location within a song in reference to its downbeat. Torq automatically determines the tempo and phase of a song when you load it onto a Deck, so matching tempos is as simple as moving the Speed slider on a Deck until the BPM Display shows the same value as the other Deck. If you're using external vinyl or CD control, you can adjust the speed of the song using the turntable's or CD player's pitch adjuster. Once you have matched the tempos of two songs, you need to start both songs at precisely the right moment, or in-phase with each other. When beat-matching songs, you'll normally want the downbeats of both songs aligned with each other. When aligned properly, the beats of both songs will blend together into one larger beat. If the songs are misaligned or out-of-phase, it will sound terrible as the beats of the two songs will be playing at different times (in DJ jargon, this is known as a "train wreck" and is something that should be avoided at all times).

Torq's Scrolling Waveforms will help you match the phases of the two songs.

Not only can you visually align the transients in the waveforms, you can also use the Phase Grid for automatic synchronization. Torq places a Phase Grid over the Scrolling Waveforms to help you see where the beats are, even during a breakdown or rhythmless intro of a song. In order for Torq's automatic synchronization to work, the Phase Grid will need to be aligned properly with the music. With the Phase Grids of both songs aligned properly, Torq will be able to sync the two songs together without creating train wrecks. Torq will attempt to place the Phase Grid in the proper location during song analysis. If Torq positions the Grid incorrectly, it will be up to you to re-align it to the proper beat. When a mis-alignment occurs (as seen above), you'll see that the grid does not line up with the beginnings of the beats (transients) in the waveform. In the example, the Phase Grid is too early, leaving a gap between the grid lines and the transients in the waveform. There are a number of ways to fix a mis-aligned Phase Grid. Which method you choose to use will probably depend on whether you're comfortable using the mouse and keyboard, or whether you prefer to use external MIDI control.

The results are all the same, so choose whichever feels good for you. Note: If the song you're attempting to use has tempo variations, Torq's automatic beat and phase detection will not work. You will have to manually set the tempo for the song using Tempo Anchors as detailed in Chapter 3 before you will be able to exploit Torq's automatic synchronization. Hold down the Shift key, then click-and-drag left or right with the mouse. The Phase Grid will move left or right, following your mouse movements.

Once you have aligned the thicker "downbeat" marker of the grid to the downbeat of the music, release the mouse button. Note: You can turn on Caps Lock instead of holding Shift if you need to adjust the grid using just one hand. Turn off Caps Lock when you're finished so you can regain proper control of the waveforms. Hold down the Shift key, then click on one of the Nudge buttons. The Phase Grid will move left or right depending on which Nudge button you click.

Hold down the Shift key, then click on one of the Offset buttons. Instead of making a small change to the Phase Grid, this will have the effect of moving the grid an entire beat left or right. This is a quick way to fix the Phase Grid if it happens to be aligned to the beats but has the downbeat in the wrong location. When you engage Sync on a Deck (the Sync icon is on), it will change that Deck's tempo to match the other Deck. Furthermore, when you press Play, Torq will align the song to the phase of the other Deck. Essentially, the synced Deck will be "slaved" to the other Deck (which would be the "master"). Locked Sync Sync will remain active until you turn it off by clicking the Sync button again. While Sync is active, the Decks will effectively be locked together. the slaved Deck will be affected by tempo changes made to the opposite Deck. If you slow down the master Deck, the slaved Deck will also slow down in kind.

If you attempt to scratch or re-align the slaved Deck, Torq will automatically snap it back into alignment to match the phase of the master Deck. Momentary Sync When you turn Sync off on a Deck, it will keep the tempo setting allowing the song to keep playing in time with the other Deck. However, Torq will no longer attempt to keep the two Decks in sync if you make changes to them. Torq will no longer snap the songs back into alignment if you move one of them, nor will Torq continue to match tempos if you change them. So if you just need to synchronize for a moment and wish for the music to run freely afterward, click the Sync button once to turn it on, then click it again to turn it back off--the Tempo will be matched to the other Deck, and you'll be free to start and manipulate the music as you wish. Global Tempo Using the Sync button as described above will allow you to sync one Deck to the other. However, if you wish to have your looped samples sync up to your mix, or if you wish for your mix to follow the tempo of the ReWire host, you'll use the Global Tempo. Now, when you press the Sync button on a Deck, it will sync to the Global Tempo as opposed to syncing to the other Deck. If you turn Sync on for both Decks, both Decks will be synchronized to the Global Tempo and will therefore play in sync. Additionally, when you trigger looped samples, those loops will play in sync with the Global Tempo (and any synced Decks).

changing the Global Tempo will result in the same change to the synced Decks and the Sampler. There are a couple ways to adjust the Global Tempo: 1. Hold the Shift key while dragging up and down on the Global Tempo Display to make smooth changes to the tempo. These will light in succession (creating a "chase" pattern) that will indicate the Global Tempo's position within a bar. These lights will only chase when Global Tempo is activated.

Global Tempo Metronome If you click the Headphone button next to the Global Tempo LEDs, you will hear a metronome sound in your headphones. This will allow you to hear the position of the Global Tempo. Though the sound of the Metronome can be heard in the headphones, it will not be recorded into the Sampler. Using a Deck as a Tempo Master Because songs can contain tempo changes (Tempo Anchors), it is now possible to have the Global Tempo follow a Deck. To do this, hold SHIFT while engaging Sync.

the Sync button will flash indicating that the Deck is now the Tempo Master for Torq. The Global Tempo will follow the tempo changes in the song which will cause all other aspects of Torq to follow the tempo changes. One of Torq's greatest features is the ability to use external sources to control the playback of your song files. In particular, you can use the Torq Control Vinyl or Torq Control CDs to provide the familiar tactile sensation of DJing with traditional turntables and/or CD decks. Torq also allows you to use external MIDI hardware to control nearly any feature within the application. The Control Vinyl and Control CD system works by using vinyl records and compact discs imprinted with special control signals. You'll play these control signals on your turntables and/or CD players and feed that signal into any professional audio interface that has four inputs (with phono preamplifiers on each input if you are using turntables) such as the M-Audio Conectiv. Torq will listen to those audio signals and will use the encoded information to control the playback of the Decks. Connect the outputs of your first turntable or CD player to inputs 1/2 of your audio interface. If the interface has a "Line/Phono" input selector switch, be sure to set it to "Phono" if using turntables, or "Line" if using CD players (or turntables with built-in preamps).

Connect the outputs of your second turntable or CD player to inputs 3/4 of your audio interface. Again, you'll need to set its input selector switch as described above. Using Torq with only one turntable or CD player: The connection diagram on this page assumes you have a traditional DJ setup two CD players or turntables. However, Torq has a special "AMPutate Mode" that allows you to control both decks using only one turntable or CD player. This mode is described later in this chapter. Make sure your audio interface is selected in the "Audio Interfaces" drop-down menu. Note: An additional tab appears on the right side of the Preferences window when certain M-Audio products (such as the Xponent DJ controller) are being used in conjunction with Torq. this tab contains parameters relating specifically to the operation of the connected M-Audio device. To learn more about the contents of this additional tab, refer to your new hardware's User Guide. The next step requires you to select the type of control signals you'll be using for each Deck.

If you'll be using the Torq Control Vinyl records, select "Torq Vinyl" for the Control Type. if you'll be using the Torq Control CDs , select "Torq CD" for the Control Type. Since this selection is independent for each Deck, you can use any combination of vinyl and CD control that you'd like. note: If you own the Ms. Pinky Interdimensional Wrecked System, you can use those vinyl records to control Torq.

The playback of the Decks will now be controlled by the incoming control signals you have selected. While terms such as "digital vinyl" are sometimes used to describe vinyl control systems such as the one used in Torq, the truth is that the system is still analog. There are "digits" encoded in the analog domain on the Torq Control Vinyls and CDs and those digits are transferred to Torq by analog means through the inputs of your audio interface. Because of this, the control system is subject to certain environmental and physical variables that can influence its performance. The system is very robust and compensates for many of these factors, allowing a wide range of variance between equipment to yield identical control response.

This means the equipment you already own (turntables, cartridges, styli, CD players, etc.) is probably sufficient for use with Torq's external control system. M-Audio has diligently tested the control system using a wide variety of equipment from different manufacturers, but not every possible combination of gear could be tested. While unlikely, it is possible that there could be problems with components in your DJ setup that might render the control system inoperable. When this happens, the Control Calibration displays on the External Control Preferences tab will be your first place to look in order to diagnose the problem. Control Type If the external control system is enabled but doesn't seem to be working, first check the Control Type settings for each Deck before you tear out all the wiring in your DJ rig. If you have the wrong Control Type selected, Torq will not react in the proper manner to the control signals. Once you've verified the setting here, you can continue diagnosing your problem. Velocity and Position When the external control system is operating properly, it provides three vital pieces of information to Torq's Decks: the speed and direction of the Control Vinyl or Control CD as well as the current position on the record or CD. The Velocity display shows a number that indicates both speed and direction at the same time.

When the Velocity is 0, the record or CD is stopped (or the needle has been lifted off the record). if the number is 1. 0, that means the vinyl record is running forward at normal speed (when using the Torq Control Vinyls, this refers to 33 1/3 RPM playback on the turntable). When the number is -1. 0, it means the record or CD is running backwards at normal speed (33 1/3 RPM). As you manipulate the record or CD by hand or with their pitch adjusters, you'll see the Velocity display change immediately to reflect the movements. The Position display shows a number that Torq uses to calculate the playback position for the audio file loaded into the Deck. When the record or CD is playing forward, this number will increase--it will decrease if the record or CD is playing backwards. You'll also notice that this number will jump whenever you lift the needle off the record and place it in another location (known as a "needle drop"). This is what allows Torq to play back a song just as if it was pressed right into the Control Vinyl or Control CD.

< Reversed Playback Direction If you find that Torq seems to be responding backwards to the Control Vinyls or CDs, take a look at the Velocity display. If the number shown is negative while the control source is playing forward, it could mean that the audio cables connecting the turntable or CD player to your interface are backwards. Swap the left and right plugs on the back of the audio interface and the problem should be fixed. < Erratic Playback Position If Torq seems to be jumping around to random locations in the song during playback, take a look at the Position display. This number should be rapidly growing larger as the control source plays.

If this number looks like it's counting erratically, this is most likely due to damaged control records (which is normal after extended use). This could also be due to poor stereo separation in the turntable's needle or preamp. This is especially common with very old needles. To fix this, purchase a replacement vinyl record, replace your stylus, or purchase one of the recommended styli/cartridges listed at the end of this manual. < Erratic Velocity Values A turntable is a very sensitive piece of equipment.

It can take the smallest vibrations and amplify them into audible sound. That's what's happening when you play a record--the grooves in the record vibrate the stylus as they play and those vibrations are translated to audio. The problem with turntables, though, is that they cannot distinguish between what is an intentional vibration caused by the moving grooves in the record and an unintentional vibration picked up through the body of the turntable. For example, if you kick the table the turntable is on, that "thump" will be transferred through the turntable up through the needle and translated into sound. What this means, in terms of the External Control system, is that vibrations and other unintentional noise can "contaminate" the control signals being read from the records. When this happens, the noise can temporarily throw off the ability of Torq to track the records. In order to help minimize this problem, Torq has a setting called "Power Threshold" with various level settings. The idea is to set this value above any of the extraneous noise such that Torq will only focus on the louder control signals from the records.

Here's how to set this level properly: 1. Place the needle of your turntable on the Control Vinyl, but leave the turntable stopped.

3. Lower the Power Threshold to -40 and look at the Velocity value for the deck. 4. If the Velocity is showing random values even though the turntable is stopped, that means the Power Threshold is too low--Torq is picking up noise and interpreting it as a control signal. If you still see random Velocity values, raise the Power Threshold another 5dB. 6. Eventually, you'll reach a point where the Velocity stays at 0. Please note that, if you're in a noisy environment that does not have good physical isolation of the turntables (to prevent external vibrations from being picked up by the stylus), you may need to raise the Power Threshold setting a little higher to filter out the additional noise in the room. Error Index If you've checked your audio cable connections and have also replaced your turntable's needles yet still experience problems, take a look at the Error Index displays. These displays will be showing a number typically between 0.

15 and 1. 50, which is perfectly normal. If the number is above 2. 0, it will turn red, indicating that there is too much noise in the audio signal for Torq to properly track position and velocity. Try cleaning the record using a high quality vinyl cleaning system.

Too much dirt on the record can cause errors in the tracking process. A high Error Index can also be caused by wear and tear on the Control Vinyl. Each time a record is played, it is slightly damaged, especially if the tracking weight of the needle is very heavy. After repeated use, the control signal may become distorted and unreadable. Simply flip over the Control Vinyl to the second side or purchase a replacement record from the M-Audio Webstore (www.

If the output level of your stylus/cartridge is too low, this can also result in high Error Index readings. Try replacing your stylus/cartridge with one of the recommended models at the end of this manual for a higher output level. In this mode, one control source is assigned to each Deck. You will need two sources (2 turntables, 2 CD players, or one of each) in order to control the two Decks in Torq. This is just like using traditional hardware to DJ. When using Standard mode, you have two control styles to choose from--Absolute mode and Relative mode--which are explained below. Absolute Mode This is the default control style when in Standard mode and is indicated by the [>|<] icon on what was previously the Play/ Pause button on the Decks. Absolute mode means that Torq will be following the position of the external control source. This is most apparent when using the Control Vinyls--you can lift the needle and place it in different locations on the record and Torq's Decks will follow this position. If you place the needle at the beginning of the record (or rewind the Control CD back to the beginning of a track), the song in the Deck will also jump back to the beginning.

This mode is obviously the mode that will recreate the sensation of using CDs and Vinyl with the greatest detail. You will be able to control playback position from your turntables or CD players without having to interact with the Torq interface. relative Mode In contrast , Relative mode will ignore the playback position of the Control Vinyl or Control CD. Torq will only monitor the direction and speed of the control source. To enable Relative mode on a Deck, click the Absolute mode button--its icon will change to [<|>] indicating that Relative mode is now active (click the button again to toggle back to Absolute mode). You'll now notice that placing the needle in different locations on the record will have no effect on the music--playback will resume from the point it left off as soon as the needle touches the record again. Even though the playback position of the Control Vinyl or Control CD is not affecting the playback position of the song on the Deck, the speed and direction of the control source will still continue to work. You can change the playback speed using the pitch adjusters on your turntables or CD players and the playback speed of the Deck will follow. you can even scratch like normal. The added benefit is that, should the needle skip a groove while you're scratching, you won't lose the sound you were using.

You can continue to scratch the same location of the audio file even if the needle keeps skipping. Note: While there will be no audible change in music playback when switching a Deck from Absolute mode to Relative mode, there is a chance that the playback position could jump to an unanticipated position when switching from Relative mode back into Absolute mode. This is due to the fact that, while using the features of Relative mode, the playback position of the Deck and the actual location of the control source could fall out of sync (for example, if you loop the song on the Deck, the song will no longer proceed forward but the location of the control source will continue to play forward). When you switch back to Absolute mode, Torq will immediately jump to the position indicated by the control source. This could even be a position after the song has ended! Therefore, be extremely careful when toggling back to Absolute mode.

Only do so if (1) you know the location of the song and control source are still in sync or (2) you mute the Deck before switching over, thus preventing any jumps from being heard by your audience. While exploring the depths of Torq, you will repeatedly run into scenarios that would not be possible with traditional DJ hardware--techniques that can only be achieved through the flexible power of computer technology. Torq's AMPutate mode is a perfect example of this--it allows you to DJ using only one turntable or CD player. wait , what? DJing has always been about two turntables and a mixer, right? when using AMPutate mode , it still is , but one of the turntables is "virtual. " The idea behind AMPutate mode is that you generally need to manipulate only one song at a time when DJing.

One song will be playing freely (the one your audience is dancing to) while you play with the other turntable in order to match tempos and find the perfect starting place for the next song. Once tempos are matched and the time is right, you'll start the song and apply small adjustments to it in order to keep it in sync while mixing it in. Once the song is fully mixed in and the previous song is over, your need for manipulating the song will be over. At that point, you'd put a new record on the other turntable and begin the process of cueing and beat-matching. Deck Control AMPutate mode allows you to control one of Torq's Decks with a single Control Vinyl or Control CD while the other Deck operates in Hybrid or CDJ mode. If not, turn it on now by selecting "Yes" in its drop-down menu. With External Control enabled, you'll also be able to enable AMPutate mode by selecting "Yes" in its drop-down menu.