



Torq[®] Controller Assignments User Guide

Version 2.0

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Chapter 1: Introduction

Purpose of This Guide

This User Guide provides details about the extensive and powerful features of the Torq[®] 2.0 Controller Assignments Page.

In addition to the MIDI control assignment and MIDI Learn methods detailed in Chapter 14 of the Torq User Guide, Torq also lets you make highly detailed control assignments via the Controller Assignments Page. Using the Controller Assignments Editor (see Chapter 3, “Assignments Editor”) you can view, edit, or create hardware control assignments for qualified control hardware such as Torq Xponent, as well as the keys on your computer keyboard.

This functionality also allows you to edit and create output of feedback or information from Torq to qualified control hardware such as Torq Xponent. An example of this output information is the pre-configured MIDI LED Sync, which causes the buttons on your hardware to flash in time with the Master Tempo in Torq (see Chapter 12 of the Torq 2.0 User guide). If you are not using a qualified third party Torq controller, you can use the Controller Assignments Page to create custom assignments for your hardware.

Although, the Controller Assignment Page is an extremely powerful tool, you should really take the time to familiarize yourself with Torq in as much detail as possible before attempting to change or create controller assignments. However, you can always reset qualified controllers to their default mappings by clicking the reset button.

Using the Controller Assignment Page Vs. Right Click Mapping

Most Torq functions are easily mapped by right-clicking the parameter in the Torq interface. On qualified hardware, right click mapping not only maps the external controller to a Torq function, it also automatically configures feedback if your external controller has bi-directional MIDI feedback. This illuminates the corresponding button when the function is engaged in Torq (if the hardware supports it). Additionally, the right click mapping sets up any default secondary or shift functionality associated with the Torq feature.

Because of this, it may be quicker and easier to use right click mapping through the Controller Assignment Page. The Cue function is a good example of this. Right clicking and mapping this function creates 3 mappings, which are also viewable in the device's Controller Assignment Window:

- 1** Cue Action – the default Cue behavior assignment for the button
- 2** SetCuePoint – the shift click or alternate functionality associated with the cue button
- 3** CueLEDState – the MIDI feedback assignment which allows Torq to light up the MIDI controller button to show that the function is engaged.

In this example, it is useful to map using a right click, given the time involved to set up the controller assignments.

However, some controls, such as wheels or platters on MIDI controllers require the use of the Controller Assignment Page to configure and are too complex to map with a simple right click. In many cases, the use of the Controller Assignment Page is necessary to configure items such as endless rotary encoders or non standard controllers. Additionally, the Controller Assignment Page gives an additional level of customization. With it, it is possible to invert knobs values, create new secondary functions to buttons and limit the range of a knob or slider. The Controller Assignment Window can also be used to configure VU meters and other visual feedback mechanisms if your MIDI controller supports them.

Keep in mind that the vast majority of buttons and knobs are right clickable, and therefore the right click is a good place to start when mapping a MIDI controller. If necessary, functions that were mapped via right clicked can later be further edited via the Controller Assignment Page.

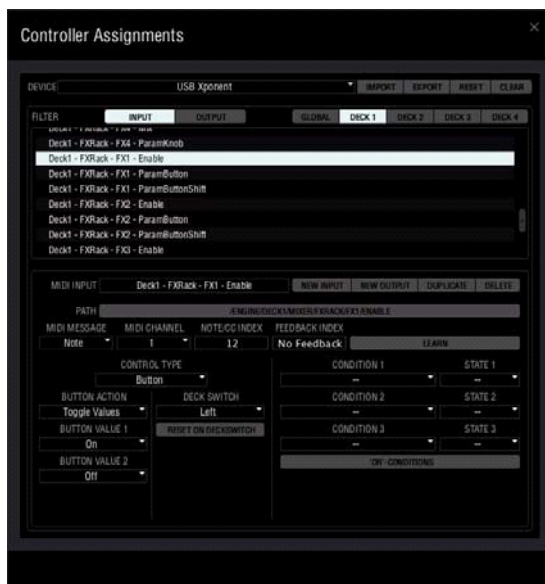
Chapter 2: Controller Assignments Page

Accessing the Controller Assignments Page



Torq Preferences Icon


To access the Controller Assignments Page click on the Preferences icon in the Torq Toolbar, and then click the Controller Assignments button at the bottom of the Preferences screen. Once the Controller Assignments Page opens you will see that it displays the parameters and buttons explained below, whenever you select an assignment from the list or create a new one.



Torq Controller Assignments Page - MIDI Input

Device

Clicking this pop-up menu displays a list of connected control devices that are connected to your computer, including the computer keyboard itself. Choosing one of these options lets you edit or create control assignments specific to that device.

 Refer to Chapter 5, “Keyboard Input Assignments” for more information about assigning the keys on your computer keyboard to Torq functions and parameters.

Import Button

This button lets you import previously saved or backed-up controller assignments for the selected control device by clicking this button and navigating to the folder where the assignments file (in XML format) is located. Once you have found the file click “Open” (Mac) or “Ok” (Windows) to load the assignments into Torq.

Export Button

Clicking this button lets you save all current controller assignments for the selected device to your hard drive as an XML file. It's definitely a good idea to save your current assignments before making changes or creating new ones.

Reset Button

Clicking this button automatically recalls the factory controller assignments for the selected device, even if you've accidentally deleted all of the assignments.

Clear Button

Clicking this button deletes all current controller assignments for the selected device.

Filter Buttons


These buttons let you view the current assignments based on the type of function. The available function types are Global and Deck Based. This information is displayed in the Assignment List immediately below the Filter buttons. Clicking on an item in the Assignment List displays the Assignment details and parameters in the Assignments Editor located in the lower half of the Controller Assignments Page. An explanation of each filter follows.

Input

Clicking this button displays the list of current controller assignments in the Assignments List for all assigned inputs. These assignments represent the mapping of hardware controls to the knobs, buttons and faders in the Torq GUI.

Output

Clicking the Output button displays the list of Output assignments in the Assignments List for all assigned outputs. These assignments represent the mapping of information sent from Torq to the various controls and displays on your hardware such as the Level Meters. This button is not available when mapping the keys on your computer keyboard to various Torq functions and parameters (see Chapter 5, "Keyboard Input Assignments").

 Refer to Chapter 6, "MIDI Output Assignments" for more information.

Global

Clicking this button in combination with the Input or Output buttons displays the list of assignments for Global functions such as the Crossfader and other Master Functions within Torq.

Deck Buttons (1 through 4)

These correspond to Decks A, B, C, and D respectively. Clicking any or all of them in combination with the Input or Output buttons displays the list of assignments for Deck functions such as Deck Speed, Looping, EQ functions and effects parameters on a per Deck basis.

Chapter 3: Assignments Editor

MIDI Assignment Parameters

The MIDI Assignment Parameter section allows you to create new or edit existing controller assignments for any MIDI devices connected to the system. For example choosing “Deck1 - FXRACK - FX1 -Enable” from the list displays details about the assignment are displayed in Assignment Editor, located in the lower half of the Controller Assignments Page.

You can also click different combinations of Filter buttons, and select various assignments in the Assignments List to see the different options used for mapping various Torq functions. Any accidental changes or deletions can be restored by clicking the Reset button.

MIDI INPUT

Deck1 - FXRack - FX1 - Enable

NEW INPUT

NEW OUTPUT

DUPLICATE

DELETE

PATH

/ENGINE/DECK1/MIXER/FXRACK/FX1/ENABLE

MIDI MESSAGE

Note

MIDI CHANNEL

1

NOTE/CC INDEX

12

FEEDBACK INDEX

No Feedback

LEARN

CONTROL TYPE

Button

DECK SWITCH

Left

BUTTON ACTION

Toggle Values

BUTTON VALUE 1

On

BUTTON VALUE 2

Off

RESET ON DECKSWITCH

CONDITION 1

--

STATE 1

--

CONDITION 2

--

STATE 2

--

CONDITION 3

--

STATE 3

--

'OR'-CONDITIONS

Torq Assignments Editor

MIDI Input


This box displays the name of the current selected assignment, or the name of the assignment your are editing or creating. For example, “Deck1 - FXRACK - FX1 -Enable.” If no assignment is selected, it will display "Un-assigned"

New Input Button

Clicking this button creates a new unassigned input assignment. In other words this assignment does not have a hardware control mapped to it. The mapping is achieved using the Learn button. See “Learn Button” on page 8

New Output Button

Clicking this button creates a new unassigned output assignment. In other words this assignment is not mapped to a hardware destination. If no assignment is selected, it will display "Unassigned"

 Refer to “Creating MIDI Output Assignments” on page 26 for more information.

Duplicate Button

Clicking this button copies the currently selected assignment. To save confusion the duplicate will appear at the bottom of the Assignment List. This useful when you want to create an assignment for another, similar hardware control. You can select an assignment, click the Duplicate button, and then edit the new version using the parameters found in the Assignments Editor.


Delete Button

This button deletes the currently selected assignment.

Path Button

This button is labeled with the destination of the assignment within the Torq Engine. For Input Assignments, the path selects what parameter in Torq you want to control such as buttons, and knobs. For Output Assignments, the path selects which feedback parameter in Torq you want to be sent to your controller such as whether a Play button is lit or not. For example the Input Assignment “/ENGINE/DECK1/MIXER/FXRACK/ENABLE corresponds to the Enable button for Effects Slot 1, on Deck A.

When editing or creating a new assignment, clicking on this button lets you select a new destination from a list that is displayed in a “Select Destination” screen that appears.

 Refer to “Creating MIDI Input Assignments” on page 14 and “Creating MIDI Output Assignments” on page 26 for more information.

MIDI Message

This box displays the MIDI Message type that will be sent to Torq from your hardware controller when it is an input message or to your hardware controller if it is an output message. In this case Note (a MIDI Note value). The Message Type is determined by the individual hardware control (button, knob, slider or MIDI keyboard note) you assign to the Torq control by clicking the Learn button, and then moving or pressing the hardware control (see “Learn Button” on page 8).

You can also click on the message name and choose one of the following message types from the pop-up menu when editing or creating control assignments: “Control Change” (MIDI CC), Note, Note Range, and Pitch Wheel.

Note

When this MIDI Message is selected, a mapped Torq parameter will react to one specific MIDI note number.

Note Range

This MIDI Message causes a mapped Torq parameter to react to a range of notes. Choosing Note Range adds an extra Note Range box to the left of the Learn button in the Assignment Editor. You can enter the range of notes (for example 12) in this box.

The Note Range message type is useful when mapping a range of keys on a keyboard to a Torq function such as a Mixer Channel Volume. In this instance, with a range of 12 notes, the first note sets the Volume fader to full volume while the 12th note sets it to Zero.

Control Change

Selecting the Control Change message causes a mapped Torq control to react to a Control Changes (MIDI CC) sent on a CC #..

Pitch Wheel

This MIDI message causes a mapped Torq control to react to Pitch Wheel messages.

MIDI Channel

The MIDI Channel box displays the MIDI Channel that the message is transmitted on. For this assignment this is set to channel 1. This is determined by the individual hardware control (button, knob, slider or MIDI keyboard note) you assign to the Torq control by clicking the Learn button, and then moving or pressing the hardware control (see “Learn Button” on page 8). You can also click the channel number, and select one of the 16 available MIDI channels or “Any.”

Note/CC Index

This displays either the MIDI CC (Control Change) number or MIDI Note number transmitted from your hardware to Torq. For example with “Deck1 - FXRACK - FX1 - Enable” selected in the Assignments List for Deck 1 Input Messages, this value is a MIDI CC.

Because each hardware button transmits a unique MIDI Note number, this note value is based on the hardware button you assign to the Torq control. This assignment is achieved by clicking the Learn button, pressing a button on your hardware (see “Learn Button” on page 8). On the other hand, if you already know the value that you need to use, you can double click on the number and enter a new MIDI CC or note number. When manually entering the MIDI Note number, the range of available MIDI Note numbers is 0 - 127 (Notes C0 to G9)

Index Fine

When editing or creating an assignment for a fader or knob on a hardware controller capable of simultaneously transmitting two MIDI CC numbers, the Fine Index box displays the second MIDI CC number for any LSB message sent to Torq. This configures the hardware control for performing adjustments in finer detail. This box is automatically filled in if you are using qualified control hardware that simultaneously transmits standard MSB and LSB messages.

Feedback Index

When mapping a hardware button to a Torq function, you can enter that same MIDI CC or Note number that appears in the Note/CC Index box so that the button illuminates when pressed. This provides visual confirmation, based on feedback from Torq, that the MIDI message was successfully transmitted to the application.



The feedback index is not used to show the state of the mapped parameter, and will only light up if the button is pressed. For example, if the mapping controls the play button, it will not light up when the play button is engaged in Torq. To do this, another output controller assignment must be created. Please read the MIDI Output Assignments section of the manual on how to configure this functionality.

Learn Button

To assign a hardware control to a Torq function, click the Learn button and then press or move the control on your MIDI device. Once this is done, the hardware control is mapped to the software function. The various values listed in the Assignment Editor will update to reflect those transmitted to Torq whenever the hardware control is used.

Control Type

This box displays the control type used for the current control assignment. The available options are Button, Fader/Knob, Jog/Encoder, Radio Buttons, Keyboard Range, and On/Off Switch. You should choose the appropriate control type for each individual parameter on the hardware controller you're assigning and how you would it to function.

Control Behaviors

Torq offers additional Control Behaviors based on the following control Control Types:

Button Action

This Control Behavior is available when you select Button as the control type. Clicking on the pop-up menu offers you the following choices which define the behavior of a button when it is pressed, and therefore how it is to be used:

Trigger Action

This lets you use a button, MIDI keyboard note, or key on your computer keyboard for functions such as Jump to Track End. In other words, tapping the button once will trigger the mapped function.

Hold-Action

When this option is selected the hardware button performs its assigned function for as long as the it is held down. This setting is typically used when assigning a button to functions like Seek Forward.

Set To Value

This setting configures a button to send a specific value, based on the Button Value 1 setting. You can select the Button Value from the Button Value 1 pop-up menu, located immediately below the Button Action. The available choices are On or Off. This pair of setting is useful when mapping a hardware button to function such as Mode Selection. Values change depending on which parameter in Torq is being controlled. In some cases, this may be a number range, in others, it may be a states such as Play/Pause.

Toggle Values

This setting configures a hardware button to toggle or switch between two values each time it is pressed. These values can be chosen from the Button Value 1 and Button Value 2 pop-up menus located immediately below the Button Action. This combination of setting configures a button to switch a Torq function on an off, for example, an Enable button on an Effects Slot. As mentioned in Set To Value, the actual value may change depending on what parameter is being effected.

Toggle Def./Last

This option configures a button to toggle or switch between a default setting and a value you have set yourself. This can be used for mapping a button to a knob in Torq, such as an Amount knob for an Effects plug-in, toggle between zero and a position you have manually set it to.

Hold Value

When this option is selected, the hardware button sets its assigned function to a specific value, based on the Button Value 1 setting, for as long as the it is held down. You can select the Button Value from the Button Value 1 pop-up menu, located immediately below the Button Action. The available choices are On or Off. As mentioned in Set To Value, the actual value may change depending on what parameter is being effected.



If you are assigning a hardware button to a Torq fader or knob, such as the Amount knob on an Effects Slot, the Button Value 1 pop-up menu changes to a knob that you can use for setting the Button Value.

Inc. Value (Increment Value)

When mapping a button to a Torq fader or knob, such as the Amount knob for an Effects plug-in, the parameter value of the knob will increment (increase) every time the button is pressed. As mentioned in Set To Value, the actual value may change depending on what parameter is being effected.

Dec. Value (Decrement Value)

When mapping a button to a Torq fader or knob, such as the Amount knob for an Effects plug-in, the parameter value of the knob will decrement (decrease) every time the button is pressed. As mentioned in Set To Value, the actual value may change depending on what parameter is being effected.

You can set the amount that the knob will move each time the button is pressed using the following parameters:

- Resolution - This knob lets you set the amount that the control is moved every time the hardware button is pressed. If you set this knob to a value of 4, the values of the software know will change in units of 4 every time the hardware button is pressed.
- Fine Resolution - This knob lets you configure the hardware button to move the control in smaller amounts every time it is pressed when certain conditions are set using the Condition and State settings.

The following example explains how to configure a hardware button to increment the setting of a Torq knob using the using both the Resolution and Fine Resolution settings.

Here is an example of how to configure a Torq knob with both a regular and fine resolution:

- 1 Load a song onto Deck A.
- 2 Load the Strobe plug-in into Effects Slot 2 on Deck A, switch it on, and set the Rate to 1/16. Leave the Amount knob set to 0.00%.
- 3 Open the Controller Assignments Page, and click the Input and Deck 1 Filter Buttons. These should be the only active buttons (white in color).
- 4 Choose a “Deck1 - FXRack - FX2 - Mix” in the Assignments List.
- 5 Choose “Button” in the Control Type pop-up menu.
- 6 Click the Learn button on the right side of the Assignments Editor.
- 7 Press a button on your hardware controller. The button is now mapped to the Amount knob for Effects Slot 2 on Deck A.
- 8 Choose “Inc. Value” from the Button Action pop-up menu.
- 9 Set the Resolution knob to about 4.
- 10 Set the Fine Resolution knob to about 2.
- 11 Click the Auto Repeat button. It will turn white. When this button active, the value set by the Amount knob in Torq will continue to increase if you hold down the button on your hardware.
- 12 Choose “Shift” from the Condition 1 pop-up menu.
- 13 Choose “Pressed” from the State 1 pop-up menu.
- 14 Choose “Alt” from the Condition 2 pop-up menu.
- 15 Choose “Pressed” from the State 2 pop-up menu.
- 16 Click the click the “OR - Conditions” button.
- 17 Close the Controller Assignments Page, and the Torq Preferences.
- 18 Press F5 on your computer keyboard, and Press play on you hardware.

If you hold down the Shift button on your hardware and press the mapped button two or three times you’ll see the value of the Amount knob increase in increments of about 4% each time. Holding down the Alt key on your keyboard and pressing the button will raise the value in increments of about 2%.

Now hold down the Shift button on your controller and then hold down the mapped button. The value of the Amount knob continues to increase until you release the button.

If you want to, you can reset the edited controller assignment to the factory default by clicking the Reset button on the upper right side of the Controller Assignments page.

Reset Value

This setting configure a mapped button to reset the value of a Torq control (such as an Amount or EQ knob) to its default setting after it has been adjusted.

Auto-Repeat Button

When this button is active, holding down a mapped button causes the value of the assigned parameter to continue changing until the button is released.

Knob Behavior

Soft Takeover Button

This option is only available for the Fader/Knob and Jog/Encoder control types. When this button is active (white in color) the hardware control will do a slow or soft takeover of its corresponding Torq control. This type of “Control Behavior” prevents unwanted value (and sound changes), when there is a difference between the position of an assigned hardware fader or knob, and its counterpart in Torq.

Jog/Encoder Behavior (Jog Types)

When assigning a Jog Wheel or Encoder to a Torq function, there are four different Jog Types to choose from. Types A through C are used with third party MIDI DJ controllers. You will need to try out each of these to see which one works best. Type D is reserved for when you are controlling a Deck with a controller that has MIDI scratch platters or large jog wheels, although other jog types may work depending on the make of your controller.



Torq will most often select the correct Jog type when the learn action is performed. After the controller assignment is configured, test it out and then switch the encoder type only if it does not work properly.

Additional Jog/Encoder Parameters.

Jog Sensitivity (JOG SENSIV.)

This parameter is available for Jog Types A through D, and sets the scratch or nudge sensitivity of the scratch wheel. Jog Sensitivity is not available for Jog Type D if the Jog Interaction parameter is set to “Set Deck Speed.”

Jog Acceleration (JOG ACCELER.)

This parameter is also available for Jog Types A through D. Turning this knob to the right results quicker reactions to fast scratch movements by Torq. When the Jog Acceleration knob is set to zero, Torq’s reaction time is governed by the Jog Sensitivity value. Jog Acceleration is not available for Jog Type D if the Jog Interaction parameter is set to “Set Deck Speed.”



When configuring a scratch wheel, it is recommended to set the Jog Acceleration to 0.

Reset After Jog Use

This button is available for Jog Types A through C. When this button is activated it turns white, and the value of the mapped parameter will revert to its value prior to being adjusted by a jog wheel or encoder. This can be useful when controlling effect parameters. Reset After Jog Use is not available for Jog Type D if the Jog Interaction parameter is set to “Set Deck Speed.”

Jog/Encoder Parameters for Jog Type D

Jog Interaction

This parameter offer the following settings:

- **Standard** - This setting is for scratching/nudging/setting a parameter with a motor driven MIDI platter that has its motor off, so that it behaves like the non motor-driven scratch wheels on Torq Xponent.
- **Set Deck Speed** -This setting should be chosen when a motor driven platter is being used in MIDI Platter Control mode.

Deck Switch

These settings determine which side of your two-deck MIDI will transmit the MIDI messages, and are useful when controlling all four Torq Decks with two-deck hardware. For more information on deckswitch, consult the Torq 2.0 Manual.

Off

When this option is selected, a control assignment only works on the Torq Deck it was mapped to. In other words, if you to map a control to a function on Deck A, it will only work on that Deck.

Left

When this option is selected, the control's assignment is not targeting a fixed deck, but changing its target deck according to the current state of the DeckSwitchLeft parameter.

Right

When this option is selected, the control's assignment is not targeting a fixed deck, but changing its target deck according to the current state of the DeckSwitchRight parameter.

Reset on Deck Switch Button

When this button is activated (white in color), switching decks results in the current mapped parameter values being copied to the new target Deck. As this happens the corresponding parameter on the previous target Deck will be reset to their defaults.

This function is especially important when using two motor driven platters to control Torq in Four-Deck mode. For example, if you switch your left MIDI platter to a new Torq Deck, the previously targeted Deck will no longer be in MIDI Platter Control mode. If Reset on Deck Switch is not active, the first deck would stop playing because it would no longer be receiving messages from the control vinyl or CD, because they are now being sent to the new target deck.

Invert Button

This button is available when the Control Type is set to Fader/Knob, Radio Buttons, or Keyboard Range. Activating this button reverses the behavior or operation of a control. For example, the typical behavior of a knob dictates that turning it to the right, increases the value. If you activate the Invert Button, turning a mapped knob to the right will decrease the value.

Min/Max Value

The Minimum Value and Maximum Value knobs are available when the Control Type is set to Fader/Knob, or Button, with the Button Action set to either “Inc Value” or “Dec Value.” These knobs let you limit the range of knobs and faders within Torq. In this instance the Torq control will never go beyond the minimum and maximum values regardless of how far you move the hardware control.


This feature is also useful if you have one hardware button configured to increment a parameter value, and another to decrement it. The increment button will never be able to increase the parameter value above the maximum value, and the decrement knob will never be able to lower the setting below the minimum value.


Auto-Repeat Button

The Auto-Repeat button is available whenever “Inc. Value” or “Dec. Value” is selected as the Key Interaction. When this button is active, holding down a mapped key causes the value of the assigned parameter to continue changing until the button is released.

Conditions

These settings define conditions under which a mapped hardware control will work. For example you can configure a control such that it will only work if the Shift button on your hardware controller or computer keyboard is being held down. This is done by choosing “Shift” in the Condition 1 pop-up menu and “Pressed” in the “State 1” pop-up menu.

 Please read Chapter 7: Control States for more information on how to configure conditions and states.

 The Windows Ctrl key corresponds to the Mac Command key. If you are using a Mac and you choose “Control” from the Condition pop-menus (1, 2, or 3), you should use the Command key as the Modifier key instead of the Control key when using the control assignment in your mixes.

‘OR’ -Conditions Buttons

This button is used when you have more than one Condition set for a control assignment. When this button is active, only one of the Conditions has to be true for the assignment to work. However, if this button is inactive all Conditions have to be in effect. More information on ‘OR’ – Conditions can also be found in Chapter 7: Control States

Chapter 4: MIDI Input Assignments

Creating MIDI Input Assignments

This section provides instructions on how to create a new controller assignment. The following example explains one of the way you can assign a hardware button to the Triplet Mode button in the Torq Toolbar.

To assign a hardware button to the Triplet Mode button in the Torq Toolbar:

- 1 Select your control device from the Device menu.
- 2 Click the Input Filter button. 3 Click the Global Filter button.


Only the Input and Global buttons should be active. The Deck and Output Filter buttons should be greyed out.

- 3 Click the New Input button in the Assignment Editor. The Assignment Editor will populate with several parameters for the currently un-mapped (unassigned) Input assignment.
- 4 Click the path button. This opens the Select Destination screen.
- 5 Click on the triangle next to “ENGINE.” This expands the Torq Engine category.
- 6 Click the triangle next to “MASTER.” This expands the Master category.
- 7 Click on “SYNC/MASTER TEMPO.” This expands the Sync/Master Tempo category.
- 8 Click on “TripletMode,” and then click the Apply button at the bottom of the Select Destination screen.

“Master - TripletMode” will be added to the Assignments List, and highlighted in white. The MIDI Input field in the Assignments Editor will also contain the same name, and the Path Button will display “/ENGINE/MAS-TER/TRIPLETMODE.”

- 9 Click the Learn button and press a button on your hardware controller. This maps the hardware button to the Triplet button.
- 10 Choose “Toggle Values” in the Button Action pop-up menu.
- 11 Choose “Shift” from the Condition 1 pop-up menu.
- 12 Choose “Pressed” in the State 1 pop-up menu.
- 13 Close the Controller Assignments Page and Torq Preferences.


Hold down Shift on your hardware or computer keyboard, and press the newly assigned hardware button. The Triple Mode button will turn white, signifying that Torq is in Triplet Mode. Holding Shift and pressing the button again, switches off Triplet Mode.

 *If you do not want to keep this control assignment you can reopen the Controller Assignments Page, and click the Reset button at the top of the page, or the Delete button in the Assignments Editor.*

Chapter 5: Keyboard Input Assignments

Key Assignment Parameters

When Keyboard is selected in the Device list, a list of assigned keys as displayed in the window. Clicking on each key displays the mapping assignment in Assignment Editor, which is located in the lower half of the Controller Assignments Page. Clicking a combination of Filter buttons, such as Input and Deck1 allows you to narrow down which assignments are shown. The information displayed in the Assignments Editor varies based on the item you have selected or created. This section explains the available parameters and available options.

 You can also click different combinations of Filter buttons, and select various assignments in the Assignments List to see the different options used for mapping various Torq functions. Any accidental changes or deletions can be restored by clicking the Reset button.



Torq Controller Assignments Page _ Keyboard Input

Key Input

This field displays the name of the control assignment as reflected in the Assignments List, as well as the name of any new assignment while you are creating it.

New Input Button

Clicking this button creates a new unassigned input assignment. In other words this assignment does not have a hardware control mapped to it. The mapping is achieved using the Learn Key or Learn Key Code button.

Duplicate Button

Clicking this button copies the currently selected assignment. To save confusion the duplicate will appear at the bottom of the Assignment List. This is useful when you want to create an assignment for another key. You can select an assignment, click the Duplicate button, and then edit the new version using the parameters in the Assignments Editor.

Delete Button

This button deletes the currently selected assignment.

Path Button

This button is labeled with the destination of the assignment within the Torq Engine. For example “Deck1 - Unload”.

When editing or creating a new assignment, clicking on this button lets you select a new destination from a list that is displayed in a “Select Destination” screen that appears (see “Creating Keyboard Input Assignments” on page 20).

Key


This field displays the name of the currently assigned key.

Learn Key Button

To assign a key to a Torq function, click the Learn Key button and then press a key on your keyboard. Once this is done, the key is mapped to the software function. The various values listed in the Assignments Editor will update to reflect those transmitted to Torq after the key is pressed.

Learn Key Code Button

When you Press this button followed by a key, Torq will scan the keyboard for the key code, for example 2 for which corresponds to the number “1” key above the letter “Q” on a US Mac keyboard. The Key field will update and display the key code, for example “Scan Code: 2.” Learning the key code useful if want to assign a key combination such as “Shift+1”, and you are likely to use different keyboards, including those formatted for other regions of the world. This means that regardless of the keyboard layout the assignment will always work because Torq will always look for “Scan Code: 2” combined with the Condition setting of “Shift”, and the State setting of “Pressed.”

 Refer to “Conditions” on page 19 for more information.

Key Interactions

Clicking the pop-up menu offers you the following choices which define the behavior of an assigned key when it is pressed, and therefore how it is to be used:

Trigger Action

This lets you use a key for functions such as Jump to Track End. In other words, tapping the key once will trigger the mapped function.

Hold-Action

When this option is selected the key performs its assigned function for as long as it is held down. This setting is typically used when assigning a key to functions like Seek Forward.

Set To Value

This setting configures a key to send a specific value, based on the Button Value 1 setting. You can select the Button Value from the Key Value 1 pop-up menu, located immediately below the Key Interaction. The available choices are On or Off. This pair of settings is useful when mapping a key to functions such as mode selection. Values change depending on which parameter in Torq is being controlled. In some cases, this may be a number range, in others, it may be a states such as Play/Pause.

Toggle Values

This setting configures a key to toggle or switch between two values each time it is pressed. These values can be chosen from the Key Value 1 and Key Value 2 pop-up menus located immediately below the Key Interaction. This combination of setting configures a key to switch a Torq function on an off. For example the Enable button on an Effects Slot. As mentioned in Set To Value, the actual value may change depending on what parameter is being effected.

Toggle Def./Last

This option configures a key to toggle or switch between a default setting and a value you have set yourself. This can be used for mapping a button to a knob in Torq, such as the Amount knob for an Effects plug-in, so that it switches between zero and a position you have manually set it to.

Hold Value

When this option is selected, the key sets its assigned function to a specific value, based on the Key Value 1 setting, for as long as the it is held down. You can select the Key Value from the Key Value 1 pop-up menu, located immediately below the Key Interaction. The available choices are On or Off.

Inc. Value (Increment Value)

When mapping a key to a Torq fader or knob, the parameter value of will increment (increase) every time the key is pressed.

Dec. Value (Decrement Value)

When mapping a key to a Torq fader or knob, the parameter value will decrement (decrease) every time the button is pressed.

You can set the amount that the knob will move each time the button is pressed using the following parameters:

Reset Value

This setting configure a mapped button to reset the value of a Torq control (such as an Amount or EQ knob) to its default setting after it has been adjusted.

Key Value Knob

This knob is available when a key is assigned to a Torq fader or knob and the Key Interaction is set to “Set Value,” or “Hold Value.” Whenever you press the mapped key the control will immediately jump to the value specified by the Key Value Knob.

When “Toggle values” is chosen in the Key Interaction pop-up menu, offers you a Key Value 1 and Key value 2 knob. Pressing a mapped key causes control will jump between the values specified by these knobs.

Deck Switch

These settings determine which side of your two-deck MIDI controller will transmit the MIDI messages. These setting are useful when controlling all four Torq Decks with two-deck hardware.

Off

When this option is selected, a key assignment only works on the Torq Deck it was mapped to. In other words, if you to map a control to a function on Deck A, it will only work on that Deck.

Left

When this option is selected, the key assignment is applied to the left side of your controller, and it will work on any Deck targeted by that side of the hardware. Selecting this option is recommended when using Torq in Four-Deck Mode.

Right

When this option is selected, the key assignment is applied to the right side of your controller, and it will work on any Deck targeted by that side of the hardware. Selecting this option is recommended when using Torq in Four-Deck Mode.

Resolution Knob

When assigning a key to a knob or fader in Torq, this knob lets you set the amount the control is moved every time the Key is pressed. If you set the Resolution parameter to a value of 4, the value of the software knob will change in units of 4 every time the key is pressed.

Fine Resolution Knob

When assigning a key to a knob or fader in Torq, this knob lets you configure the key to move the control in smaller amounts every time it is pressed.

Invert Button

This button is available when the Control Type is set to Fader/Knob, Radio Buttons, or Keyboard Range. Activating this button reverses the behavior or operation of a control. For example, the typical behavior of a knob dictates that turning it to the right, increases the value. If you activate the Invert Button, turning a mapped knob to the right will decrease the value.

Min/Max Value


The Minimum Value and Maximum Value knobs are available when the Key Interaction is set to either “Inc Value” or “Dec Value.” These knobs let you limit the range of knobs and faders within Torq when a key is mapped to increase or decrease the parameter value.

This feature is also useful if you have one key configured to increment a parameter value, and another to decrement it. The increment key will not increase the parameter value above the maximum value, and the decrement key will not lower the setting below the minimum value.

Conditions

These settings define conditions under which a mapped key will work. For example you can configure a key such that it will only work if the Shift key is held down. This is done by choosing “Shift” in the Condition 1 pop-up menu and “Pressed” in the “State 1” pop-up menu.

Setting conditions has the advantage of letting you assign a key to more than one Torq function or parameter. You can also configure a key to have more than one mode of operation, such as coarse or fine adjustment of a Torq parameter. Up to three Conditions can be set, offering maximum flexibility.

 Please read Chapter 7, “Control States” for more information on how to configure conditions and states.

‘OR’ -Conditions Buttons

This button is used when you have more than one Condition set for a key assignment. When this button is active, only one of the Conditions has to be true for the assignment to work. However, if this button is inactive all Conditions have to be in effect. More information on ‘OR’ – Conditions can also be found in Chapter 7: Control States

Creating Keyboard Input Assignments

This section provides instructions on how to create a keyboard input assignment. This example explains one way to assign the “T” key on your computer button to the Triplet Mode button in the Torq Toolbar.

To assign a key to the Triplet Mode button in the Torq Toolbar:

- 1 Select your control device from the Device menu.
- 2 Click the Input Filter button.
- 3 Click the Global Filter button.

Only the Input and Global buttons should be active. The Deck and Output Filter buttons should be greyed out.

4 Click the New Input button in the Assignment Editor. The Assignment Editor will populate with several parameters for the currently un-mapped (unassigned) Input assignment.

5 Click the path button. This opens the Select Destination screen. 6 Click on the triangle next to “ENGINE.” This expands the Torq Engine category. 7 Click the triangle next to “MASTER.” This expands the Master category.

6 Click on “SYNC/MASTER TEMPO.” This expands the Sync/Master Tempo category.

7 Click on “TripletMode,” and then click the Apply button at the bottom of the Select Destination screen.

“Master - TripletMode” will be added to the Assignments List, and highlighted in white. The MIDI Input field in the Assignments Editor will also contain the same name, and the Path Button will display “/ENGINE/MAS-TER/TRIPLETMODE.”

8 Click either the Learn Key or Learn Key Code button and press the “T” key on your keyboard. This maps the key button to the Triplet button.

9 Choose “Toggle Values” in the Key Interaction pop-up menu.

10 Choose “Shift” from the Condition 1 pop-up menu.

11 Choose “Pressed” in the State 1 pop-up menu.

12 Close the Controller Assignments Page and Torq Preferences

Hold down Shift on your keyboard, and press the “T” key. The Triple Mode button will turn white, signifying that Torq is in Triplet Mode. Holding Shift and pressing the key again, switches off Triplet Mode.



If you do not want to keep this key assignment you can reopen the Controller Assignments Page, and click the Reset button at the top of the page, or the Delete button in the Assignments Editor.

Chapter 6: MIDI Output Assignments

The MIDI Output Assignments let you configure Torq to send information regarding the state of its functions and parameters to various display elements on your hardware such as the Level Meters of flashing LED’s and buttons.

MIDI Output Parameters

Clicking the Output button followed by any of the five Filter buttons on the right side of the Controller Assignments Page (Global or Decks 1 through 4) lets you view the current assignments in the Assignments list. When you click on an assignment, such as “Deck 1 - OnBeat,” the Assignments Editor will display the various parameters and their settings. The information displayed in the Assignments Editor varies based on the assignments you have selected or created. This section explains the available parameters and their options. Please refer to your device’s MIDI specification or appendix for more information on the proper MIDI feedback to send to it.




Torq Controller Assignments Page - MIDI Output

MIDI Output

This field displays the name of the selected assignment or an assignment that your are editing or creating.

New Output Button

Clicking this button creates a new unassigned output assignment. In other words this assignment is not mapped to a hardware destination.

 See “Creating MIDI Output Assignments” on page 26 for more information.

Duplicate Button

Clicking this button copies the currently selected assignment. To save confusion the duplicate will appear at the bottom of the Assignment List. This is useful when you want to create an assignment for another, similar hardware control. You can select a control, click the Duplicate button, and then edit the new version using the parameters found in the Assignments Editor.

Delete Button

This button deletes the currently selected assignment.

Path Button

For output Assignments, the Path Button selects which parameter in Torq will be displayed via MIDI on through the selected MIDI path. For example, ENGINE/DECK2/DECK/PLAY will send a note on to indicate that the play state on deck 2 is active.

When editing or creating a new assignment, clicking on this button lets you select a new destination from a list that is displayed in a “Select Destination” screen that appears (“Creating MIDI Output Assignments” on page 25).

MIDI Message

This field displays the MIDI Message type that will be sent to your hardware controller from Torq. In this case Note (a MIDI Note value). You can also click on the message name and choose one of the following message types from the pop-up menu, when editing or creating control assignments: In addition to “Control Change” (MIDI CC), the choices are Note, Note Range, and Pitch Wheel.

Note On

When this MIDI Message is selected, Torq will send Note On message to your hardware controller with an available MIDI note range of 0 to 127.

Note On/Off

This setting is generally used for sending feedback to a button which has been configured to switch a function on and off, such as a PFL button. The Note On portion of the message is sent from Torq as the function is switched on, and the Note Off portion when it is switched off. You can see an example of how this is set up in Torq by clicking the Output button, clicking Deck one and selecting “Deck1 - PFL.” The Assignment editor will show you how the PFL button for Deck A is configured.

Note Range

This MIDI Message causes a mapped hardware display to react to a range of notes sent from Torq. Choosing Note Range adds an extra Note Range field to the left of the Learn button in the Assignment Editor. You can enter the range of notes (for example 12) in this field.

The Note Range message type is useful when you want to send signals to a display element with multiple LED's, such as a volume level meter. In this case, each LED is triggered by its own Note On message.

Control Change

Selecting the Control Change message causes a mapped hardware display to react to a Control Change (MIDI CC) type message. This message type is also useful for sending signals to a display with multiple LED's such as a volume meter.

Pitch Wheel

This MIDI message causes a mapped Torq control to react to Pitch Wheel messages.

The following message types are proprietary Torq messages which transmit alpha-numeric, or numeric characters to qualified MIDI control devices, capable of displaying letters or numbers.

Text

With this option selected, Torq will send a proprietary message type to MIDI control devices, capable of displaying letters or numbers. This is useful for transmitting the current song name or parameter values to an alpha-numeric text display on your hardware.

Number

This option causes Torq to send a proprietary message type to MIDI control devices, capable of displaying numbers. This is useful for transmitting the current song position in minutes and seconds or parameter values to a numeric display on your hardware. This option is not available for Torq functions that do not contain or transmit alpha-numeric values.

MIDI Channel

The MIDI Channel box displays the MIDI Channel that a message is transmitted on. Clicking the channel number, lets you select one of the 16 available MIDI channels.

Note/CC Index

This field is used for entering the MIDI Note number or MIDI CC number that your hardware will react to. This field is generally populated with the correct value whenever you create a new assignment. See "Creating MIDI Output Assignments" on page 26

Min/Max Value

These fields are available when either Note On or Change Control (MIDI CC) are selected as the MIDI Message type, and let you specify the lowest and highest MIDI Note or MIDI CC number. For example, if the level meter on your hardware controller has 12 LED's, and is to set to react to Change Control messages, you can set the minimum CC number to 63 and the maximum to 74. This way the minimum volume (0.0) is mapped to CC 64, and each of the following eleven values are mapped to each of the following MIDI CC numbers, up to the maximum volume level, which will be mapped to CC 74.

Note Range

This field is available when Note Range is selected as the MIDI Message type, and specifies the number of subsequent notes used in the note range. In other words if the MIDI Note in the Note/CC Index field is 20 and the value in the Note Range field is 12, the range of notes used in the message will be from note 20 to note 32.

Select Button

This button performs a similar function to the Learn button discussed in “Learn Button” on page 7, and in “Creating MIDI Input Assignments” on page 13. However, clicking this button reveals a pop-up menu, which lets you select the destination (button LED or meter) for the MIDI message sent from Torq to qualified MIDI control devices. This function is unavailable for controllers that have not been qualified to work with Torq.

Mode

The options in the Mode pop-up menu determine the behavior of a hardware display element, such as a meter, or backlit button.

Show Value

This option causes Torq to transmit the current value or “state” of an on-screen control (button or fader or knob). This could be used with hardware level meters, or to show the On/Off or Hold-Action State (also On/Off) for Torq buttons.

Flash on Action

This option is useful for setting up a hardware button to flash whenever it is pressed to control the Torq function it is mapped to.

Flash on Increment

If you have a button mapped to increment a parameter value you can choose this option so that the button flashes each time it increments.

Flash on Decrement

When you have a button mapped to decrement a parameter value you can choose this option so that the button flashes each time it decrements.

Flash on Reset

If you have a button mapped to reset a parameter value to its default, you can choose this option so that the button flashes whenever it is resets.

Flash Length

When a display element on your hardware, such as an LED or backlit button is set to one of the Flash options, you can use this knob to set the length of time the element it will remain illuminated with each pulse.

Invert Button

This button is available for all of the MIDI Message types aside from Text or Number, and when active, this button causes the display element to react in the opposite manner. For example, if you have a hardware button mapped to the Enable button for an Effects Slot, so that the button on your controller lights up whenever you enable the effect, the Invert button will reverse this behavior.

Synced Flashing

This button is available when the Mode parameter is set to Show Value. When this button is active (white in color) a flashing LED or button will do so in time with the current song tempo. Clicking this button causes the LED or button to flash at a slower rate. This can be useful for setting up a display element on your hardware to provide you with a reminder or warning based on the song position.

Deck Switch

The Deck Switch output functionality functions much in the same way that the input functionality. Deck Switch overrides the default deck assignment and allows for any output feedback to follow the focus of the Assigned deck for both Deck Switch Left and Deck Switch Right.

Off

When this option is selected, a control assignment only works on the Torq Deck it was mapped to. In other words, if you to map a control to a function on Deck A, it will only work on that Deck.

Left

When this option is selected, the control assignment feedback is sent from the deck that the Deck Switch Left focus is applied to.


Right


When this option is selected, the control assignment feedback is sent from the deck that the Deck Switch Right focus is applied to.

Conditions

These settings define conditions under which a mapped hardware control will work. For example you can configure a control such that it will only work if the Shift button on your hardware controller or computer keyboard is being held down. This is done by choosing “Shift” in the Condition 1 pop-up menu and “Pressed” in the “State 1” pop-up menu.

Setting conditions has the advantage of letting you assign a single hardware control to more than one Torq function or parameter. You can also configure a control to have more than one mode of operation, such as coarse or fine adjustment or a Torq parameter. Up to three Conditions can be set for a hardware control, offering maximum flexibility.

 *The Windows Ctrl key corresponds to the Mac Command key. If you are using a Mac and you choose “Control” from the Condition pop-menus (1, 2, or 3), you should use the Command key as the Modifier key instead of the Control key when using the control assignment in your mixes.*

 *Please read Chapter 7, “Control States” for more information on how to configure conditions and states.*

‘OR’ -Conditions Buttons

This button is used when you have more than one Condition set for a control assignment. When this button is active, only one of the Conditions has to be true for the assignment to work. However, if this button is inactive all Conditions have to be in effect. More information on ‘OR’ – Conditions can also be found in Chapter 7: Control States

Creating MIDI Output Assignments

This section provides an example of how to create a new Output assignment to a backlit button on your hardware, so that it flash in time with the Master Tempo in Torq.

To create a MIDI Output assignment to a button:

- 1 Select your control device from the Device menu.
- 2 Click the Output Filter button.
- 3 Click the Global Filter button.

Only the Output and Global buttons should be active. The Deck and Input Filter buttons should be greyed out.

- 4 Click the New Output button in the Assignment Editor. The Assignment Editor will populate with several parameters for the currently un-mapped (unassigned) Output assignment.
- 5 Click the path button. This opens the Select Destination screen.
- 6 Click on the triangle next to “ENGINE.” This expands the Torq Engine category.
- 7 Click the triangle next to “MASTER.” This expands the Master category.
- 8 Click on “SYNC/MASTER TEMPO.” This expands the Sync/Master Tempo category.
- 9 Click on “MasterTempo,” and then click the Apply button at the bottom of the Select Destination screen.

“Master - MasterTempo” will be added to the Assignments List, and highlighted in white. The MIDI Input field in the Assignments Editor will also contain the same name, and the Path Button will display “/ENGINE/MAS-TER/MASTERTEMPO.”

10 Click the Select button. A pop-up menu will appear.

11 Scroll down the menu if needed, and choose the display element you wish to use.

12 Close the Controller Assignments Page and Torq Preferences.

The display element you’ve chosen now flashes in time with the Master Tempo in Torq, whenever a song is playing.



If you do not want to keep this assignment you can reopen the Controller Assignments Page, and click the Reset button at the top of the page, or the Delete button in the Assignments Editor.

Chapter 7: Control States

Control states are a way to get additional functionality out of an otherwise already mapped assignment. Just as holding down Ctrl and then pressing C in many programs will engage the copy command instead of trigger the letter C, control states can be used much in the same way to modify a key, button or knob function.

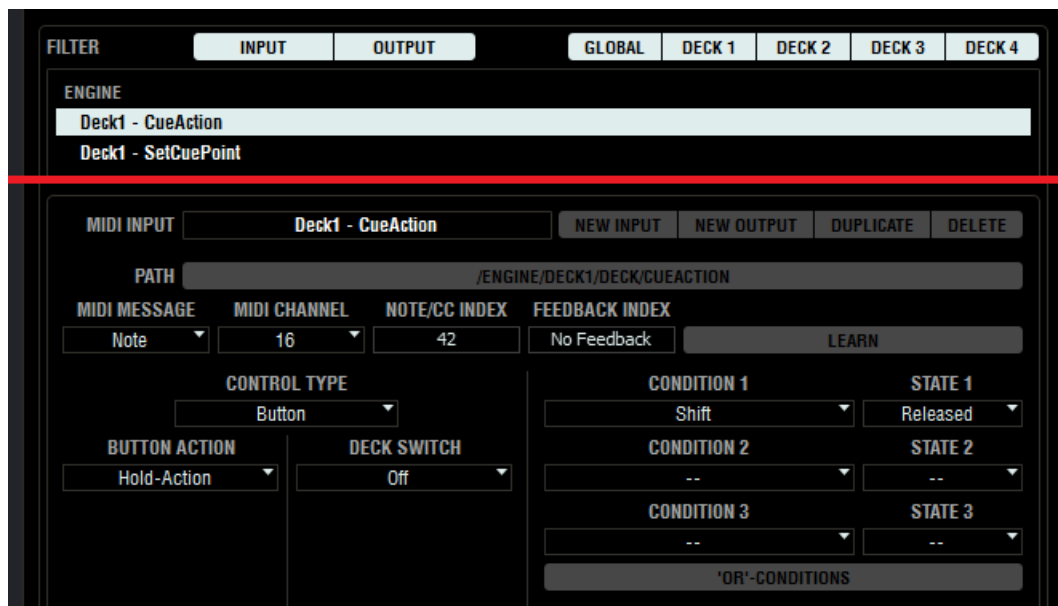
Control states can be engaged by either using one of the preconfigured modifier keys (Shift, Alt, Control, or Capslock) or by mapping other keys or MIDI messages to one of the previously mentioned keys.

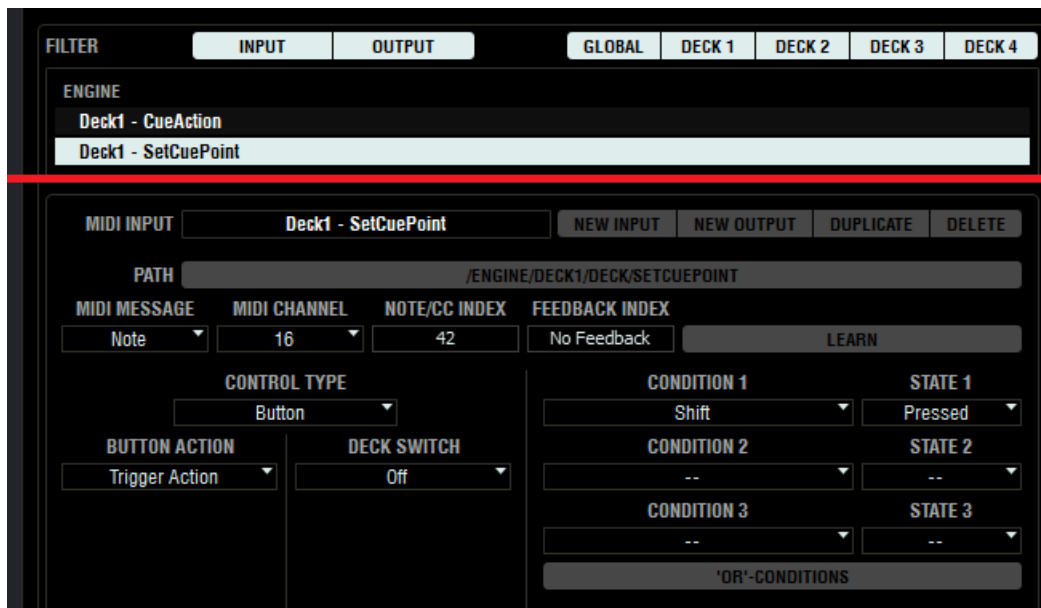
A *The Windows Ctrl key corresponds to the Mac Command key. If you are using a Mac and you choose “Control” from the Condition pop-menus (1, 2, or 3), you should use the Command key as the Modifier key instead of the Control key when using the control assignment in your mixes.*

Configuring Control States within Controller Assignments

The control state section exists in the bottom right hand corner of the controller assignment window. Configure a control state for a previously created assignment by selecting a Shift, Alt, Control or Capslock in one or more of the condition pull down menus in the bottom right section of a controller assignment, and assigning either a Released or Pressed state to it.

In the two examples below, the Deck 1 – Cue Action assignment is configured to work only when Shift is Released and the Deck1 – SetCuePoint is configured to run only when Shift is pressed.

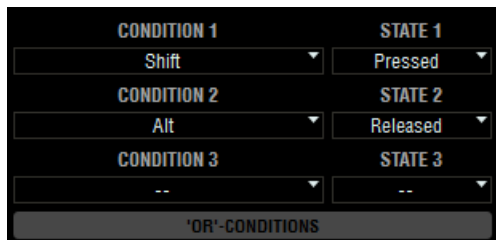




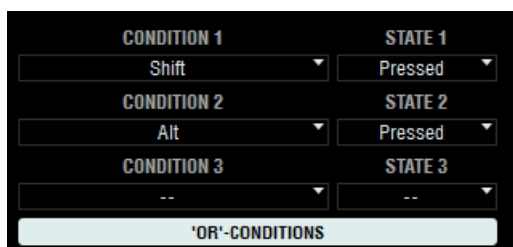
When configuring two assignments that both depend on a control state, it is important to configure one with the state pressed and another with the state released, just like in the example above. If two assignments are created, but only one is configured to work with, for example, Shift pressed, the other assignment will trigger regardless if shift is engaged or not.

Multiple Conditions and Control States

It is possible to configure assignments to depend on up to 3 conditions. For example, the example below shows a controller assignment that will only be triggered only when Shift is pressed and Alt is released.



Additionally, the "Or'-Conditions" button can be used to allow a controller assignment to be modified by several separate conditions. The below example shows a controller assignment that can be triggered when the Shift or the Alt key is held down.



User States

User States are additional variables used to modify the behavior of controller inputs or outputs. Much as the Shift, Alt, Ctrl, and CapsLock conditions can be used to modify a controller assignment, User States can be used in the same way. The main difference between user states and modifier keys is that while the modifier keys are typically used to temporarily engage an alternate a function behavior, User States are better suited for switching between 2 or more separate mappings of equal importance.

There are 3 different types of User States

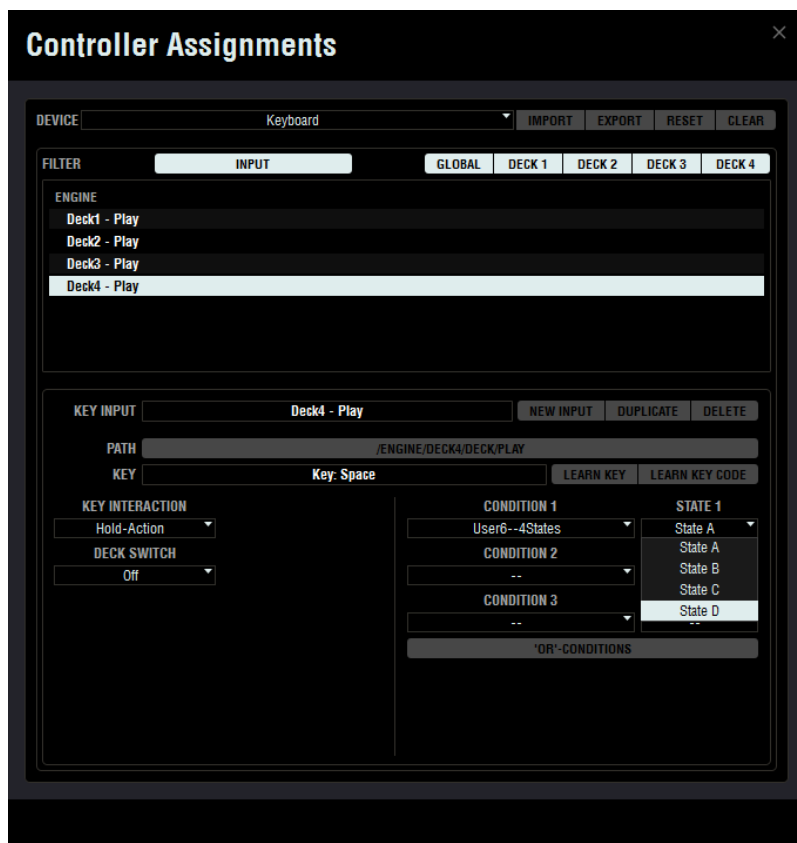
- 1 4 with 2 states (State A and B)
- 2 1 with 3 states (State A, B and C)
- 3 1 with 4 states (State A,B,C,D).

The 3 and 4 state options are available for when 3 or 4 separate controller assignments are wanted from a single key or MIDI control.

Creating a multi function mapping using Control States

Creating a knob/button or key with multiple functions is a two step process. First, multiple input assignments with the same Key/MIDI message, but different path assignments must be created.

For example, the space bar can be mapped to the Play button for all 4 decks using 4 separate controller assignments.



After the 4 assignments are created and mapped, as shown above, User6-4States is selected in the Condition 1 area and State A is selected for the 1st assignment, State B for the 2nd assignment and so on. This ties each assignment with its own user state.

Setting up User State Control

Creating a User State is similar to creating any other controller assignment. Instead of controlling a Torq parameter however, it controls the state value (A,B,C,D).

Create a Control State by clicking new input and then selecting one of the User Control States within the Control States area.

The screenshot shows a configuration window for a user state control. At the top, there's a 'KEY INPUT' field set to 'User6--4States' with buttons for 'NEW INPUT', 'DUPLICATE', and 'DELETE'. Below this is a 'PATH' field showing '/ENGINE/CONTROLSTATES/USER6--4STATES'. A 'KEY' field is set to 'Key: Alt' with 'LEARN KEY' and 'LEARN KEY CODE' buttons. The main area is divided into two columns. The left column, 'KEY INTERACTION', has four dropdowns: 'Inc. Value', 'MIN. VALUE' (set to 'State A'), 'MAX. VALUE' (set to 'State D'), and an 'AUTO-REPEAT' button. The right column has three rows for 'CONDITION 1', 'CONDITION 2', and 'CONDITION 3', each with a dropdown set to '--'. To the right of these is a column for 'STATE 1', 'STATE 2', and 'STATE 3', each with a dropdown set to '--'. At the bottom right is a button labeled ''OR'-CONDITIONS'.

In the example above, the Alt key is used to cycle through States A-D. Pressing Alt will cycle the space bar through the play buttons. Controller assignments can also to trigger specific states. The below example shows how a button can be set to trigger a specific State (State B).

The screenshot shows a configuration window for a button control. At the top is a 'CONTROL TYPE' dropdown set to 'Button'. Below this is a 'BUTTON ACTION' dropdown set to 'Set To Value'. Underneath is a 'BUTTON VALUE 1' section with a list of states: 'State D', 'State A', 'State B' (highlighted), 'State C', and 'State D'.

Pressing Alt will now cycle through any controller assignments that have been configured with "User6—4States" A-D as control states.

Getting Creative with User States

User states are a powerful way to get additional functionality out of your controller or keyboard. Here are some other things that are possible when using user states:

- Re-map a MIDI controller's platter to control a deck's effects with the press of a control state button
- Use a user state modifier to remap your controller's fast forward and rewind button to change the key of a deck
- Add another layer of alternate functionality to any MIDI note that is already mapped.

Appendix A: Controller Assignment Function List

The Controller Assignment Function list is an explanation of the function of all input and output paths available in the Controller Assignment Page.

When the output destination is blank, it is assumed that the output will display the state of the described input function. When input is blank, it is assumed that the function is only available as an output path.

Parameter				Description of Parameter IN	Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Engine	Master	Crossfader	Crossfader	Crossfader position	
			CrossfaderCurve	Crossfader Curve ammount	
			CrossfaderInverted	Enables crossfader inversion (Hamster switch)	
			CrossfaderStyleSelect	Selects type of Track Morph or disables Track Morph	
			CrossfaderStyleFreq	Enables the Frequency Track Morph Effect	
			CrossfaderStyleCut	Enables the Cut Track Morph Effect	
			CrossfaderStyleDuck	Enables the Duck Track Morph Effect	
			CrossfaderStyleMorph	Enables the Morph Track Morph Effect	
			CrossfaderStyleInverted	Inverts the Track Morph Effect	
			CrossfaderTransformLeft	Triggers left Crossfader Transform Button	
			CrossfaderTransformRight	Triggers right Crossfader Transform Button	
			CrossfaderFIlterType	Changes the Frequency Track Morph filter type	
			CrossfaderCutType	Changes the Cut Track Morph effect type	
			CrossfaderDuckType	Changes the Duck Track Morph effect type	
			CrossfaderMorphType	Changes the Morph Track Morph effect type	
			CrossFaderPFL	Enables the Track Morph Pre-listen PFL	
			Deck1CrossfaderLeft	Enables routing of Deck A to left side of Crossfader	
			Deck1CrossfaderRight	Enables routing of Deck A to right side of Crossfader	
			Deck2CrossfaderLeft	Enables routing of Deck B to left side of Crossfader	
			Deck2CrossfaderRight	Enables routing of Deck B to right side of Crossfader	
			Deck3CrossfaderLeft	Enables routing of Deck C to left side of Crossfader	
			Deck3CrossfaderRight	Enables routing of Deck C to right side of Crossfader	
			Deck4CrossfaderLeft	Enables routing of Deck Dto left side of Crossfader	
			Deck4CrossfaderRight	Enables routing of Deck D to right side of Crossfader	
			Crossfader Master Value	N/A	Not Specified / Undefined
		Mixer	MasterVolume	Controls the Master Volume ammount	
			CueMix	Adjusts the position of the Cue Mix knob	
			CueVolume	Controls the Cue Volume ammount	
			HeadPhoneMasterMode	Adjusts the position of the Cue Mix knob	
			CombinedPFL	Switches PFL source between Deck B and C	
			MeterMode	Switches External VU Meter between Master and Channel	
			MasterMeter	N/A	Represents Master Volume Meter state in CC
			CueMeter	N/A	Represents Cue Meter state in CC

Parameter				Description of Parameter IN		Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)		
Engine	Master	Sync/Master Tempo		AutoMasterDeck	Enables Auto Master feature			
				Master Tempo	Adjusts Master Tempo			
				DecrementMasterTempo	Decreases Master Tempo BPM			
				IncrementMasterTempo	Increases Master Tempo BPM			
				MasterDeckSet	Selects which Deck is the master			
				TapMasterTempo	Uses input to tap tempo the Master Tempo			
				PhaseAlignmentDeck12	N/A	Shows phase alignment betwwen tracks in Decks 1 and 2		
				PhaseAlignmentDeck34	N/A	Shows phase alignment betwwen tracks in Decks 3 and 4		
				PhaseAlignmentDeckSwitch	N/A	Shows phase alignment betwwen tracks in Deck switch focused Decks		
				Metronome	Enables Metronome Feature			
				TripletMode	Enables Shaffel / Triplet mode			
				Preview		TrackPreviewToCue	Enables Track Preview	
		SetTrackPreviewPosition	Adjusts playback position of Track Preview					
		Midi Beat Clock		SendMidiDownBeat	Sends downbeat reset to MBC out or starts MBC out			
				SendMidiStop	Stops MBC out			
				WaitingForDownbeat	N/A	Indicates whether downbeat has been triggered after SendMidDownBeat has been engaged		
		Recording (SP)		Record	N/A	Indicates whether the Master record is enabled		
				RecordTime	N/A	Sends recording time in MIDI text		
		Deck X (Applies to all Decks where Deck 1=A, 2=B, 3=C and 4=D)		Mixer	Channel Strip			
	Volume					Adjusts Channel Volume		
	PFL					Enables Channel PFL		
	EqGain					Adjusts Channel Gain Control		
	EqLow					Adjusts Channel EQ Low frequency		
	EqMid					Adjusts Channel EQ Mid frequency		
	EqHigh					Adjusts Channel EQ High frequency		
	GainKill					Enables Channel Gain Kill		
	EQLowKill					Enables Channel Low Frequency Kill		
	EqMidKill					Enables Channel Mid Frequency Kill		
	EqHighKill			Enables Channel High Frequency Kill				
	Bypass FX			Enables Channel Effects Bypass				
	Line			Enables Channel Line Input				
	VolumeMeter			N/A		Represents Master Volume Meter state in CC		
	VolumeMeterCombined			N/A		Represents either Master Volume Meter or Deck Meter state in CC (Depending on Preference)		

Parameter				Description of Parameter IN	Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)	
Engine	Deck X (Applies to all Decks where Deck 1=A, 2=B, 3=C and 4=D)	Mixer	Effect X (Applies to all Channel FX parameters for effect slots 1-4)	Chained	Enables Chain Effects Mode	
				Effect	Adjusts which Effect is loaded	
				Enable	Enables Effect	
				Mix	Adjusts the Effect Ammount Knob	
				ParamButton	Enables the Effect Parameter Button	
				ParamButtonShift	Not Specified / Undefined	
				ParamKnob	Adjusts the Effect Parameter Knob	
				SendMode	Changes the Effect's routing	
			VST Effect	Effect	Adjusts which VST Effect is loaded	
				Enable	Enables VST	
				Mix	Adjusts the VST Ammount Knob	
				SendMode	Changes the VST's routing	
				ParamButton1	Enables the VST Parameter Button 1	
				ParamButton2	Enables the VST Parameter Button 2	
				ParamKnob1	Adjusts the VST Parameter Knob 1	
				ParamKnob2	Adjusts the VST Parameter Knob 2	
		Transport	Play	Enables Play / Pause		
			CueAction	Triggers Cue Action		
			SetCuePoint	Sets Cue Point		
			Sync	Enables Deck Sync		
			SetDeckToSyncMaster	Makes the Deck the Sync Master		
			SetSongPosition	Adjusts the position of playback throughout the song		
			SeekBackward	Seeks Backward		
			SeekForward	Seeks Forward		
			SeekTrackStart	Resets song to beginning		
			SeekTrackEnd	Moves playback to end of song		
			NudgeBackward	Nudges Track Backward		
			NudgeForward	Nudges Track Forward		
			OffsetBackward	Moves Track back by one beat		
			OffsetForward	Moves Track forward by one beat		
			NudgePhaseBackward	Nudges a Track's phasegrid backwards		
			NudgePhaseForward	Nudges a Track's phase grid forwards		
			OffsetPhaseBackward	Moves a Track's phase grid backward by a beat		
			OffsetPhaseForward	Moves a Track's phase grid forward by a beat		
			DeckIsMaster	N/A	Displays if the deck is the master	
			CueLEDState	N/A	Displays the Deck's Cue button state	
			SyncLEDState	N/A	Displays whether the Deck's Sync is engaged	

Parameter			Description of Parameter IN		Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Engine	Deck X (Applies to all Decks where Deck 1=A, 2=B, 3=C and 4=D)	Speed	Speed	Adjusts the position of the Deck's Speed Adjust Slider	
			SpeedRange	Adjusts the Deck's Speed Range	
			KeyTempoLock	Enables Lock Key to Speed	
			FlattenTempo	Enables Flatten Anchor Tempo	
			TempoMultiplier	Adjusts the Deck's Tempo Multiplier Ammount	
			TapTempo	Sets the BPM of the Track by tapping the Tempo	
			ResetTempo	Resets the BPM of the track.	
			AddAnchorAtNowLine	Places Anchor marker	
			CurrentBPM	N/A	Displays a Deck's BPM in MIDI Text
			SpeedState	N/A	Not Specified / Undefined
			AverageDeckSpeed	N/A	Displays a Deck's Average Speed in MIDI Text
			SpeedNeutral	N/A	Indicates whether the speed of a Deck is at +/- 0%
		Scratch Wheel	ControlMode	Switches Deck Control Modes (Vinyl/CDJ/Hybrid)	
			TouchEnable	Enables Platter Touch (Switches to and from Vinyl Control Mode)	
			ExternalScratchWheelTouch	Triggers “Hand On” action for track scratching / manipulation	
			ExternalScratchWheelMove	Engages platter movement action for track scratching / manipulation	
			ExternalScratchWheelPhase-Move	Nudges a Track's phasegrid using scratch/platter wheel	
		Key	Key	Adjusts the Deck's key (+/- 12 semitones)	
			KeyReset	Resets the Deck's key to 0	
			IncrementKey	Increments a Deck's key by 1 semitone	
			DecrementKey	Decrements a Deck's key by 1 semitone	
			KeyResetDecimal	Resets a Deck's key to the closes integer	
			KeyIsPitchedDown	N/A	Indicates whether a key is pitched above 0
			KeyIsPitchedUp	N/A	Indicates whether a key is pitched below 0
		Quick Cue	JumpToQuickCue1	Sets Deck's track to the position of Quick Cue 1	
			JumpToQuickCue2	Sets Deck's track to the position of Quick Cue 2	
			JumpToQuickCue3	Sets Deck's track to the position of Quick Cue 3	
			JumpToQuickCue4	Sets Deck's track to the position of Quick Cue 4	
			JumpToQuickCue5	Sets Deck's track to the position of Quick Cue 5	
			SetQuickCue1	Places Quick Cue 1 on Deck's Now Line	
			SetQuickCue2	Places Quick Cue 2 on Deck's Now Line	
			SetQuickCue3	Places Quick Cue 3 on Deck's Now Line	
			SetQuickCue4	Places Quick Cue 4 on Deck's Now Line	
			SetQuickCue5	Places Quick Cue 5 on Deck's Now Line	
			ResetQuickCues	Removes all Quick Cues from a Deck's Track	
			QuickCue1Exists	N/A	Indicates whether Quick Cue 1 Exists
			QuickCue2Exists	N/A	Indicates whether Quick Cue 2 Exists

Parameter			Description of Parameter IN		Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Engine	Deck X (Applies to all Decks where Deck 1=A, 2=B, 3=C and 4=D)	Quick Cue	QuickCue3Exists	N/A	Indicates whether Quick Cue 3 Exists
			QuickCue4Exists	N/A	Indicates whether Quick Cue 4 Exists
			QuickCue5Exists	N/A	Indicates whether Quick Cue 5 Exists
		External Control	ExternalControl	Enables External Control on a Deck	
			SetExternalControlChannelExclusively	Not Specified / Undefined	
			Relative Mode	Toggles between Relative and Absolute Mode	
			RelativeSpeedMode	Disables Relative Speed Mode if enabled	
			TimeCodeChannel	Selects which channel is used for External Control	
			StealExternalControl	N/A	Not Specified / Undefined
			FreeWheelMode	N/A	Not Specified / Undefined
		Loop	Loop	Engages a Deck's Loop	
			LoopIn	Sets a Deck's Loop in point at the Now Line	
			LoopOut	Sets a Deck's Loop out point at the Now Line	
			SetLoop1	Sets a 1 Bar (or Beat) Loop at the now line	
			SetLoop2	Sets a 2 Bar (or Beat) Loop at the now line	
			SetLoop4	Sets a 4 Bar (or Beat) Loop at the now line	
			SetLoop8	Sets a 8 Bar (or Beat) Loop at the now line	
			CurrentLoopFactor1	N/A	Indicates if the loop state has changed from 1 (Direct Mode)
			CurrentLoopFactor2	N/A	Indicates if the loop state has changed from 2 (Direct Mode)
			CurrentLoopFactor4	N/A	Indicates if the loop state has changed from 4 (Direct Mode)
			CurrentLoopFactor8	N/A	Indicates if the loop state has changed from 8 (Direct Mode)
			SetLoop1Shift	Engages 1 Loop alternate function	
			SetLoop2Shift	Engages 2 Loop alternate function	
			SetLoop4Shift	Engages 4 Loop alternate function	
			SetLoop8Shift	Engages 8 Loop alternate function	
		Double / Load / Unload Deck	LoadTrackToDeck	Loads the selected track in Browser to Deck	
			Unload	Unloads the Deck's currently loaded track	
			DoubleInstance	DoubleInstance	
			DoubleInstanceTarget	Selects which Deck to be doubled (A,B,C,D)	
		MIDI Platter	External Platter Controlled	turns on motor platter controlled mode (NS7!)	
			External PlatterRunning	turnOn/off motor	Engages or Disengages a motorized platter
			ExternalPlatterSpeed	Uses the velocity of the controller on a motorized platter to determine track playback speed	
			ExternalPlatterPhaseMove	Uses the velocity of the controller on a motorized platter to nudge the phase of a track	
			Reverse	N/A	Reverses the direction of a motorized platter
			ExternalPlatterMotorSpeed	N/A	Controls the speed of a motorized platter

Parameter			Description of Parameter IN		Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Engine	Deck X (Applies to all Decks where Deck 1=A, 2=B, 3=C and 4=D)	Song Info	Song Position	N/A	Sends Song Position in CC value
			SongName	N/A	Sends Song Name in MIDI text
			ArtistName	N/A	Sends Artist Name in MIDI text
			ElapsedTime	N/A	Sends Elapsed Time in MIDI text
			RemainingTime	N/A	Sends Remaining Time in MIDI text
			SongLoaded	N/A	Indicates whether Song is Loaded
			TrackHasAnchors	N/A	Indicates whether Song contains Anchors
			OnBeat	N/A	Not Specified / Undefined
			Phase	N/A	Not Specified / Undefined
			ClockAngle	N/A	Indicates External Control Clock Angle in CC
	Sampler	Sampler X (Applies to all Sampler Parameters for Samplers 1-18)	Play	Engages Sample Play	
			Stop	Engages Sample Stop	
			Volume	Adjusts the Sample's Volume	
			Speed	Adjusts the Sample's Speed of playback	
			Loop	Enables Sample Loop functionality	
			QuickScratch1	Loads /Unloads Sample into Deck A	
			QuickScratch2	Loads /Unloads Sample into Deck B	
			QuickScratch3	Loads /Unloads Sample into Deck C	
			QuickScratch4	Loads /Unloads Sample into Deck D	
			Record	Records Sample	
			Track Position	N/A	Shows position of Sample via CC
			RecordLooped	Records a Looped Sample	
		Controller Deck Switch	DeckSwitchLeft	Selects which Deck will be controlled by the Left Deck Focus (Green)	
			DeckSwitchRight	Selects which Deck will be controlled by the Right Deck Focus (Purple)	
			LeftDeckSwitchAltDeck1	N/A	Indicates if deck 1 is selected with the left Deck Switch
			LeftDeckSwitchAltDeck2	N/A	Indicates if deck 2 is selected with the left Deck Switch
			LeftDeckSwitchAltDeck3	N/A	Indicates if deck 3 is selected with the left Deck Switch
			LeftDeckSwitchAltDeck4	N/A	Indicates if deck 4 is selected with the left Deck Switch
			RightDeckSwitchAltDeck1	N/A	Indicates if deck 1 is selected with the right Deck Switch
			RightDeckSwitchAltDeck2	N/A	Indicates if deck 2 is selected with the right Deck Switch
			RightDeckSwitchAltDeck3	N/A	Indicates if deck 3 is selected with the right Deck Switch

Parameter				Description of Parameter IN	Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Engine	Sampler	Effects Touch Pad Control	HyperFXControlFX	Selects which Effect is controlled by the Hyper FX Control	
			HyperFXControlTouch	Engages Hyper FX Control	
			HyperFXControlMix	Adjusts the Hyper FX Control Mix parameter	
			HyperFXControlParam	Adjusts the Hyper FX Control 2ndary parameter	
		Preferences	RelativeModeBehavior	Toggles between Absolute Rotation Angle and Normal	
			AutoRelativeSpeed	Enables Relative Speed Mode when switching to External Control	
			EffectsMode	Toggles between Regular and Chain Effects modes.	
			LoopOutMode	Toggles between Smart and 16th Loop Out modes	
			QuantizeTo16th	Enables Quantizing Loop and Quick Cue points	
			QuickloopMode	Toggles between “Cut and Grow” and Direct Quick Loop modes	
			QuickloopSize	Toggles between Bar and Beat modes	
			SyncMode	Adjusts Sync mode (Bar, Beat, Tempo)	
			TransportMode	Toggles between Regular and Reverse Transport modes	
			CueExclusive	Enables Cue Exclusivity	
			NudgeSensitivity	Adjusts MIDI Platter Nudge Sensitivity	
			ScratchSensitivity	Adjusts MIDI Platter Scratch Sensitivity	
		Browser	CurrentView	Toggles Browser Focus between Location, File List, Search and Filter	
			MoveToPreviousItem	Moves One Item down in the Selected List	
			MoveToNextItem	Moves One Item Up in the Selected List	
			CurrentItemShift	Use with Rotary Encoder or Knob to Scroll through Selected List	
			CollapseItem	Colapses Tree in Index	
			ExpandItem	Expands Tree in Index	
			Enter	Enter	
			JumpToCrates	Moves Database Focus to Crates	
			JumpToPlaylists	Moves Database Focus to Playlists	
			JumpToDatabase	Moves Database Focus to Database	
			JumpToFiles	Moves Database Focus to Files	
			SwitchtoSnapshots	Toggles between Snapshots and Database View	
			AddItemToCurrentCrate	Adds Selected item to Current Crate	
			Create	Creates new item in Index (Context Sensitive)	
			Rename	Renames Selected Item	
			Delete	Deletes Selected Item	
			AnalyzeSong	Analyzes Selected Song	
			RefreshFileListView	Refreshes File List View	
			BrowserAnalyzeProgress	N/A	Displays % of Analysis in CC
			BrowserAnalyzeCancel	Cancels Any Analysis	
			BrowserAddingProgress	N/A	Displays % of Adding to Database in CC
			BrowserAddingProgressVisable		Not Specified / Undefined
			BrowserAddingCancel	Cancells Any Adding to Browser/Database	

Parameter		Description of Parameter IN	Description of Parameter OUT (Parameter mirrors state or position of input description unless otherwise specified)
Control States	Shift	Enables Shift Modifier	
	Alt	Enables Alt Modifier	
	Control	Enables Control Modifier	
	CapsLock	Enables CapsLock Modifier	
	GlobalQuickCueMode	Changes wheter a quick cue press sets or cues the quick cue (Global)	
	TimeModeDeck1	Switches whether time displayed is elapsed or Remaining	
	TimeModeDeck2	Switches whether time displayed is elapsed or Remaining	
	TimeModeDeck3	Switches whether time displayed is elapsed or Remaining	
	TimeModeDeck4	Switches whether time displayed is elapsed or Remaining	
	GlobalTimeMode	could be used to switch elapsed/remaining	
	User1--2States	2 State (A/B) Variable	
	User2--2States	2 State (A/B) Variable	
	User3--2States	2 State (A/B) Variable	
	User4--2States	2 State (A/B) Variable	
	User5--3States	3 State (A/B/C) Variable	
	User6--4States	4 State (A/B/C/D) Variable	
GUI	SelectLanguage	Selects Which is the Default Language	
	SelectScheme	Selects Color Scheme	
	ShowPreferences	Toggles the Preference Windows	
	HideMixer	Enables the Hide Mixer View	
	HideSampler	Enables the Hide Sampler View	
	MaximizedBrowser	Enables the Max Browser View	
	MaximizedWaveforms	Enables the Max Waveforms View	
	ShowDeckAssignment	Enables the Deck Switch Rectangles	
	IncrementSamplerScrollIndex	Toggles Sampler View Right Button	
	DecrementSamplerScrollIndex	Toggles Sampler View Left Button	
Blank Displays	BlankNumber	N/A	Sends a blank number display in MIDI Text
	BlankText	N/A	Sends a blank text display in MIDI Text
	BlankTime	N/A	Sends a blank time display in MIDI Text
LED ON	TorqRunning	N/A	Displays Whether Torq is Running
Learning	EscapeLearning	Cancels MIDI learn state	
	EscapeLearningAndForget	Cancels MIDI learn state, reverting assignment	

Appendix B: Warranty

Warranty Terms

Avid warrants products to be free from defects in materials and workmanship, under normal use and provided that the product is owned by the original, registered user. Visit www.m-audio.com/warranty for terms and limitations applying to your specific product.



Avid
5795 Martin Road
Irwindale, CA 91706-6211 USA

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