ClyphX v2.6.2

If you have any questions/comments/troubles/requests in regard to ClyphX, please visit our forum:
http://beatwise.proboards.com/board/5/clyphx

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CHANGES IN THIS VERSION

Maintenance updates for external cross-compatibility with ClyphX Pro.

NOTE: *If you've modified your UserSettings.txt file and don't want to lose your changes, just copy the text you don't want to lose and paste it into the allotted space in the new UserSettings.txt file you download. If you created custom User Actions, you can copy the entire ClyphXUserActions.py file and paste it into the ClyphX folder you download. If you were using Macrobat and defined a SysEx List, you can copy the entire MacrobatUserConfig.py file and paste it into the ClyphX folder you download.*

INITIAL SET UP

ClyphX Transfer

The folder named 'ClyphX' needs to be placed in Live's MIDI Remote Scripts directory. Please close Live before transferring this folder. If you're updating from a previous version of ClyphX, you should delete the current ClyphX folder before transferring the new ClyphX folder.

On **Windows**, Live's MIDI Remote Scripts directory is in one of the following locations:
- Program Files\Ableton\Live x.x.x\Resources\MIDI Remote Scripts
- ProgramData\Ableton\Live x\Resources\MIDI Remote Scripts

On **OS X,** to get to Live's MIDI Remote Scripts directory:
Go to Applications, find *Live.app* or *Ableton Live x.app*, right-click and select Show Package Contents. The directory is located at:
- Contents/App-Resources/MIDI Remote Scripts

NOTE: If you have multiple versions of Live installed, you will need to place the ClyphX folder in the MIDI Remote Scripts directory of each version of Live you'd like to use ClyphX with. Also, only one ClyphX folder should exist in each MIDI Remote Scripts directory. If you'd like to keep a back up of a previous version of ClyphX, please keep it in another location (like your User folder).

Live Settings

The following settings will be found in Preferences on the MIDI/Sync tab.

1. Select **ClyphX** as a Control Surface.
2. Leave the Input and Output set to **None**.

*NOTE: It is recommended that you do not use multiple instances of ClyphX. It should only be selected in one of the six Control Surface slots. Also, ClyphX Pro should **not** be selected as a Control Surface when using ClyphX.*

Getting Started

After performing the ClyphX Transfer and making the settings given in Live Settings, you should verify that ClyphX is working. The first indicator that ClyphX is working is that you'll see a colored ring around the selected Clip Slot in Live. If you don't see this, please double-check that you've completed the steps listed above.

If you do see the colored ring, add a Clip to your set and name it `[TEST] METRO`. Then launch this Clip and it should toggle the state of the Metronome. If so, everything is working and you can get started using ClyphX in more interesting ways.

OVERVIEW

ClyphX provides an extensive list of **Actions** related to controlling different aspects of Live. You can access these Actions via **X-Triggers**. There are currently four types of X-Triggers:

- **X-CLIP** – Any Clip in Session View with the appropriate naming convention.

- **X-CUE** – Any Locator in Arrangement View with the appropriate naming convention.

- **X-CONTROL** – MIDI Controls.

- **STARTUP ACTIONS** – This is an event that will be triggered each time a Live set is loaded. This is specified in your User Settings.

Action Lists

Each X-Trigger can perform an **Action List**. As an example, a simple Action List might toggle Overdub on/off: `OVER.` A more complex Action List might mute Tracks 1 – 2, arm Track 4 and turn on the 2nd Device on Track 4: `1/MUTE ON ; 2/MUTE ON ; 4/ARM ON ; 4/DEV2 ON`

When specifying a list of Actions, each Action should be separated by a semi-colon (`;`) as shown in the example above.

The Actions in an Action List are performed sequentially (first action performed, then second action, etc), but the processing is nearly instantaneous, so it appears that all Actions in an Action List are performed at the same time.

However, X-Triggers (except for Startup Actions) can also step through an Action List and perform each Action one at a time each time the X-Trigger is triggered. To accomplish this, the Action List should be preceded by `(PSEQ)`. For example: `(PSEQ) 1/ARM ; 2/ARM ; 3/ARM`

In this example, the first time the X-Trigger is triggered, Track 1 will be Armed. The second time, Track 2 will be Armed. The third time, Track 3 will be Armed. The fourth time, it will wrap back around to be beginning and Track 1 will be Armed.

NOTE: For the sake of clarity, this document will use `CAPITAL LETTERS` *when referring to Action Lists. However, Actions Lists are **not** case-sensitive. You can use capitalization that is comfortable for you.*

Naming Conventions

Any Clip or Locator in Live can be turned into an X-Clip or X-Cue by using an **Identifier** enclosed in brackets at the beginning of the Clip or Locator's name. The Identifier can be any word or phrase, but should not contain characters other than letters, numbers and underscores.

As an example: `[THIS IS AN IDENTIFIER]`. You can, of course, use the Clip or Locator's name itself as the Identifier and just add brackets around it. And you can also use a dummy (empty) Identifier, like so: `[]`. After the Identifier, you'll specify your Action List: `[ID] OVER ; METRO`

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X-TRIGGERS

X-Clip

As mentioned in Naming Conventions, in order to turn a Clip into an X-Clip, you'll need to add an Identifier to the beginning of the Clip's name.

There are several types of X-Clips:

DEFAULT
Example: `[ID] CLIP SEMI > ; CLIP CENT -25`

This X-Clip will perform its Action List when the X-Clip is played (not launched). This way, Action Lists can be quantized via Global or Launch Quantization.

DEFAULT WITH STOP
Example: `[ID] REC ON ; 1/ARM ; 2/ARM, UNARM ; REC OFF`

This X-Clip has two Action Lists, that are separated by a comma (**,**). The first Action List will be performed when the X-Clip is played. The second Action List will be performed when the X-Clip stops playing. To perform the same Action List for play and stop, specify an asterick (*****) for the second Action List.

LSEQ
Example: `[ID](LSEQ) 1/CLIP2 CUE >1 ; 1/MUTE`

This X-Clip works similar to a PSEQ Action List except it will step through and perform the Actions in the Action List one at a time each time the X-Clip loops.

NOTES: It takes up to 100 ms for an X-Clip launch to be recognized in ClyphX. For that reason, if an X-Clip is in a launched/playing state for less than 100 ms, this may cause its Action List to not be performed.

Also, with the Default With Stop type of X-Clip, the first Action List can be a PSEQ or LSEQ, the second Action List should just be a normal Action List.

X-Cue

As mentioned in Naming Conventions, in order to turn a Locator into an X-Cue, you'll need to add an Identifier to the beginning of the Locator's name.

X-Cues will perform their Action List when the playhead passes over the X-Cue.

NOTE: An X-Cue will not perform its Action List when the X-Cue is jumped to, only when the playhead passes over it.

X-Control

X-Controls will perform their Action List when pressed. They can optionally perform a second Action List when released.

In order to define controls on your MIDI controller to use as X-Controls, you first need to specify your controls in your User Settings. Once you've done that, you should then select your MIDI controller as the Input for the ClyphX Control Surface. If you'd like to use multiple MIDI controllers, you can download **ClyphX_XT** from our forum. In the rest of this section, when we refer to ClyphX, we mean either ClyphX or ClyphX_XT.

When using controllers with ClyphX, you can keep other settings for your controller(s) in place. However, if the controller is used as the Input for another Control Surface, you will need to ensure that the other Control Surface is not set up to receive the same MIDI messages that you've configured for the controller in ClyphX.

In addition, if the Remote switch is turned on for the controller, make sure that MIDI mapping in your set does not use the same MIDI messages you've configured for the controller in ClyphX.

Lastly, if the Track switch is turned on for the controller, the MIDI messages you've configured for the controller in ClyphX cannot be used for recording data into MIDI Clips or for playing instruments.

NOTES: It is not possible to use dedicated Live controllers such as the APC20, APC40 and Launchpad with ClyphX while also using the controller with its associated Control Surface script. For example, you couldn't select the APC20 as the Input for the APC20 Control Surface and as the Input for ClyphX. You'd need to select one or the other. However, there are a couple of exceptions to this.

1. *For Launchpad users, you can use Automap to create a page or several pages to use with ClyphX. You'd select an Automap port as the Input for ClyphX.*

2. *For APC40 users who are using any of the nativeKONTROL apC-CLx presets (like apC-CL3 or apC-CL1+TC1), you can use User Mode with ClyphX. User Mode uses the following MIDI messages:*
   o *For apC-CL1 and CL1+TC1 – Notes 0 – 39 on MIDI Channel 1.*
   o *For apC-CL3 and CL3+TC3 – Notes 0 – 39 on MIDI Channel 8.*

   The upper leftmost button is Note number 0, the numbers increase as you move to the right and then down with the lower rightmost button being Note number 39. Also, you will select From MT Player 1 as the Input for ClyphX.

X-Control Overrides

The default Action List for X-Controls is specified in your User Settings. However, these Action Lists can be overridden via X-Clips by using a special Action, which looks like this:
```
[[BTN_ID]] 1/MUTE ON ; 2/MUTE ON
```

First, you specify the X-Control Identifier flanked by two sets of square brackets, then you specify the Action List to perform on press. You can optionally add a comma (,) and specify an Action List to perform on release, like so:
```
[[BTN_ID]] REC ON ; 1/ARM ; 2/ARM, UNARM ; REC OFF
```

These overrides are temporary (only accessible to the currently loaded set) and are reset back to the defaults specified in your User Settings upon set load.

NOTE: When using an X-Clip to override an X-Control assignment, the X-Clip should only contain the override Action, no other Actions.

ACTION REFERENCE

In addition to the information provided in this section, please also see General Action Notes for general information on Actions.

Global Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
ADDAUDIO	Creates an Audio Track at the end of the Track list. [3]	-
ADDAUDIO X	Creates an Audio Track where **X** is the Track Number of the new Track. [3]	ADDAUDIO 1, ADDAUDIO 10
ADDMIDI	Creates a MIDI Track at the end of the Track list. [3]	-
ADDMIDI X	Creates a MIDI Track where **X** is the Track Number of the new Track. [3]	ADDMIDI 1, ADDMIDI 10
ADDRETURN	Creates a Return Track at the end of the Return list. [3]	-
ADDSCENE	Creates a Scene at the end of the Scenes list. [3]	-
ADDSCENE X	Creates a Scene where **X** is the Scene Number of the new Scene. [3]	ADDSCENE 1, ADDSCENE 10
B2A	Back to Arrangement.	-
BPM X	**X** is the Tempo to set in BPMs.	BPM 100, BPM 85.53
BPM *X	**X** is the value to multiply the Tempo by.	BPM *0.5, BPM *2
BPM < or **>**	Dec/Inc Tempo by increment of 1-BPM.	BPM <, BPM >
BPM <X or **>X**	Dec/Inc Tempo by increment of **X**-BPM.	BPM <2, BPM >0.5
BPM RAMP X y	Smoothly Ramp up/down the Tempo where **X** is the Ramp duration (in Beats) and **y** is the Tempo (in BPMs) at the end of the Ramp. [3]	BPM RAMP 8 100, BPM RAMP 4 85.53
BPM RAMP X *y	Smoothly Ramp up/down the Tempo where **X** is the Ramp duration (in Beats) and **y** is the value to multiply the current Tempo by. [3]	BPM RAMP 16 *2, BPM RAMP 4 *0.75
DEBUG	Activate debugging mode, which causes ClyphX to log events as they occur to assist in Troubleshooting.	-
DELSCENE	When accessed via an X-Clip, Delete the Scene the X-Clip is on. Otherwise, Delete the selected Scene. In both cases, it is not possible to Delete a Scene if it's the only Scene in the Set. [3]	-
DELSCENE X	**X** is the Scene number to Delete. Specify SEL for the selected Scene. It is not possible to Delete a Scene if it's the only Scene in the Set. [3]	DELSCENE 10, DELSCENE 3, DELSCENE SEL
DEVFIRST or **DEVLAST**	Move to the First or Last Device on the selected Track.	DEVFIRST, DEVLAST
DEVLEFT or **DEVRIGHT**	Move Left or Right between Devices on the selected Track.	DEVLEFT, DEVRIGHT
DUMMY	This Action does nothing. This is intended for use with PSEQ Action Lists and LSEQ and DEFAULT WITH STOP X-Clips.	-
DUPESCENE	When accessed via an X-Clip, Duplicate the Scene the X-Clip is on. Otherwise, Duplicate the selected Scene. [3]	-
DUPESCENE X	**X** is the Scene number to Duplicate. Specify SEL for the selected Scene. [3]	DUPESCENE 10, DUPESCENE 3, DUPESCENE SEL
FOCBRWSR	Move the Focus to the Browser and show the Browser if it isn't visible.	-
FOCDETAIL	Move the Focus to Detail View and show Detail View if it isn't visible.	-
FOCMAIN	Move the Focus to the Main Focus.	-
GQ	Toggle Global Quantization value between None and the last value.	-
GQ X	**X** is the Global Quantization value to set.	GQ NONE, GQ 8 BARS, GQ 4 BARS, GQ 2 BARS, GQ 1 BAR, GQ 1/2, GQ 1/2T, GQ 1/4, GQ 1/4T, GQ 1/8, GQ 1/8T, GQ 1/16, GQ 1/16T, GQ 1/32
GQ < or **>**	Select the Prev/Next Global Quantization value.	GQ <, GQ >
GRV X	**X** is the Global Groove amount to set.	GRV 50, GRV 0
GRV < or **>**	Dec/Inc Global Groove amount by increment of 1.	GRV <, GRV >
GRV <X or **>X**	Dec/Inc Global Groove amount by increment of **X**.	GRV <2, GRV >10
HZOOM X or **VZOOM X**	Horizontally or vertically zoom in on the selected Track in Arrangement View where **X** is the number of times to zoom. Positive numbers zoom in, negative numbers zoom out. For vertical zooming, you can also include the word ALL, which will cause all Tracks to be vertically zoomed.	HZOOM 1, HZOOM -50, VZOOM 50, VZOOM -1, VZOOM ALL-50
INSAUDIO or **INSMIDI**	Inserts an Audio or MIDI Track to the right of the selected Track that will be armed and routed from the selected Track. This will not perform an insertion if the selected Track is not the correct type. For example, if the selected Track doesn't have Audio output, INSAUDIO will do nothing. [3]	INSAUDIO, INSMIDI
LEFT or **RIGHT** or **UP** or **DOWN**	Move Left or Right or Up or Down in Session or Arrangement View.	LEFT, RIGHT, UP, DOWN

Command	Description	Examples
LOADDEV X	**X** is the name of the native Live device (as shown in the Browser) to load onto the selected Track. [3]	`LOADDEV AMP, LOADDEV AUTO FILTER,` `LOADDEV CHORUS`
LOADM4L X	**X** the name of the M4L device (as shown in the Browser, but without the .amxd) to load onto the selected Track. Only M4L devices in the root of the main M4L folders can be loaded. [3]	`LOADM4L LFO, LOADM4L MAX CUTKILLER,` `LOADM4L ENVELOPE`
LOC X	**X** is the name of the Arrangement Locator to jump to.	`LOC VERSE 1, LOC HOOK`
LOC < or **>**	Jump to the Prev/Next Arrangement Locator.	`LOC <, LOC >`
LOCLOOP X	**X** is the name of the Arrangement Locator to jump to. Also, the Arrangement Loop Start position will move to the position of this Locator.	`LOCLOOP VERSE 1, LOCLOOP HOOK`
LOOP	Toggle, turn on or turn off Arrangement Loop.	`LOOP, LOOP ON, LOOP OFF`
LOOP X	**X** is the Arrangement Loop Length to set in Bars.	`LOOP 4, LOOP 16`
LOOP *X	**X** is the value to multiply the Arrangement Loop Length by.	`LOOP *0.5, LOOP *2`
LOOP < or **>**	Move the Arrangement Loop Backward/Forward by its length.	`LOOP <, LOOP >`
LOOP <X or **>X**	Move the Arrangement Loop Backward/Forward by **X** number of beats.	`LOOP <4, LOOP >16`
LOOP RESET	Reset Arrangement Loop Start position to 1.1.1.	-
METRO	Toggle, turn on or turn off Metronome.	`METRO, METRO ON, METRO OFF`
MIDI X	**X** is the MIDI message (of any type/length) to send. [1]	`MIDI 144 0 127, MIDI 192 6,` `MIDI 240 1 2 3 4 247`
MIDI CC X y z	Send a MIDI Control Change message where **X** is the Channel (in the range of 1 – 16), **y** is the Control number (in the range of 0 – 127) and **z** is the Value (in the range of 0 – 127). [1]	`MIDI CC 1 0 127,` `MIDI CC 16 10 127`
MIDI NOTE X y z	Send a MIDI Note message where **X** is the Channel (in the range of 1 – 16), **y** is the Note number (in the range of 0 – 127) and **z** is the Velocity (in the range of 0 – 127). This will send a Note message with virtually no length. [1]	`MIDI NOTE 1 0 127,` `MIDI NOTE 16 10 127`
MIDI PC X y	Send a MIDI Program Change message where **X** is the Channel (in the range of 1 – 16) and **y** is the Value (in the range of 0 – 127). [1]	`MIDI PC 1 0, MIDI PC 16 10`
OVER	Toggle, turn on or turn off Overdub.	`OVER, OVER ON, OVER OFF`
PIN	Toggle, turn on or turn off Punch In.	`PIN, PIN ON, PIN OFF`
POUT	Toggle, turn on or turn off Punch Out.	`POUT, POUT ON, POUT OFF`
PSEQ RESET	Reset all PSEQ Action Lists, so that they start back at their beginning.	-
REC	Toggle, turn on or turn off Arrangement Record.	`REC, REC ON, REC OFF`
REDO or **UNDO**	Redo or Undo.	`REDO, UNDO`
RESTART	Restart Arrangement at Position 1.1.1.	-
RQ	Toggle Record Quantization value between None and the last value.	-

RQ X	**X** is the Record Quantization value to set.	`RQ NONE, RQ 1/4, RQ 1/8, RQ 1/8T,`
		`RQ 1/8 + 1/8T, RQ 1/16, RQ 1/16T,`
		`RQ 1/16 + 1/16T, RQ 1/32`

RQ < or **>**	Select the Prev/Next Record Quantization value.	`RQ <, RQ >`
RPT	Toggle Note Repeat on/off. [4]	-

RPT X	**X** is the Note Repeat rate to set. [4]	`RPT OFF, RPT 1/4, RPT 1/4T,`
		`RPT 1/8, RPT 1/8T, RPT 1/16,`
		`RPT 1/16T, RPT 1/32, RPT 1/32T`

RTRIG	Retrigger all Clips that are currently recording.	-
SATM	Toggle, turn on or turn off Automation Arm. [3]	`SATM, SATM ON, SATM OFF`
SCENE	When accessed via an X-Clip, Launch the Scene the X-Clip is on. Otherwise, Launch the selected Scene. [2]	-

SCENE X	**X** is the Scene number of the Scene to Launch. Specify SEL for the selected Scene. You can alternatively specify the Scene's name enclosed in quotes. [2]	`SCENE 10, SCENE 3,`
		`SCENE SEL`
		`SCENE "My Scene"`

SCENE RND	Launch a randomly selected Scene. [2]	-
SCENE RNDX-y	Launch a randomly selected Scene in the range of **X-y** (where both **X** and **y** are in the range of 1 – the number of Scenes in the Set). [2]	`SCENE RND5-10, SCENE RND96-142`
SCENE < or **>**	Launch the Prev/Next Scene relative to the last launched Scene. [2]	`SCENE <, SCENE >`
SCENE <X or **>X**	Launch the Scene that is **X**-Scenes prior to or after the last launched Scene. [2]	`SCENE <5, SCENE >3`
SETCONT	Continue playback from the stop point. This is only useful when accessed from an X-Control.	-
SETFOLD	Toggle, turn on or turn off Track Fold for all Tracks.	`SETFOLD, SETFOLD ON, SETFOLD OFF`
SETJUMP X	**X** is the number of beats to jump the Arrangement's Playback Position Backward/Forward by.	`JUMP 1, JUMP -5, JUMP 7`
SETLOC	Add a Locator at the current Arrangement position or, if a Locator already exists at the position, delete the Locator.	-
SETSTOP	Stop playback. This will actually toggle playback state, so it can be used to start/stop playback when accessed from an X-Control.	-

SHOWCLIP	Show Clip View.	-
SHOWDETAIL	Toggle between showing and hiding Detail View.	-
SHOWDEV	Show Track View.	-
SIG x/y	**x** is the Time Signature Numerator value and **y** is the Denominator value.	`SIG 4/4, SIG 6/8, SIG 16/2`
SREC	Toggle, turn on or turn off Session Record. [3]	`SREC, SREC ON, SREC OFF`
SRECFIX x	Trigger fixed-length Session Record on all armed Tracks where **x** is the length to record in bars. [3]	`SRECFIX 4, SRECFIX 8,` `SRCFIX 0.5`
STOPALL	Stop all Clips.	-
STOPALL NQ	Stop all Clips immediately (not quantized). [3]	-
SWAP	Open the Browser and activate hotswapping for the selected Device. [3]	-
SWAP x	**x** is the name of the preset (as shown in the Browser, but without the .adv or .adg) to hotswap into the selected native Live device. Only presets that exist in the Device's folder (or sub-folders within its folder) can be swapped. [3]	`SWAP BASS ROUNDUP, SWAP SWIRL,` `SWAP KIT-CORE 606`
SWAP < or >	Swap to the Prev/Next preset (with wrapping) for the selected native Live device. Only presets that exist in the Device's folder (or sub-folders within its folder) can be swapped. Also, the navigation here is done alphabetically (sub-folders will be entered into alphabetically as well), so it won't necessarily line up with how you'd navigate in the Browser. [3]	`SWAP <, SWAP >`
SWING x	**x** is the Note Repeat (RPT) Swing amount (in the range of 0 – 100) to set. [3]	`SWING 50, SWING 0`
SWING < or >	Dec/Inc Note Repeat (RPT) Swing amount by increment of 1. [3]	`SWING <,SWING >`
SWING <x or >x	Dec/Inc Note Repeat (RPT) Swing amount by increment of **x**.	`SWING <2, SWING >10`
TAPBPM	Tap tempo.	-
TGLBRWSR	Toggle the Browser and move the Focus to it or the Main Focus.	-
TGLDETAIL	Toggle between Clip and Track View.	-
TGLMAIN	Toggle between Session and Arrangement View.	-
UNARM	Unarm all armable Tracks.	-
UNMUTE	Unmute all Tracks.	-
UNSOLO	Unsolo all Tracks.	-

[1] The MIDI Actions send MIDI messages to the MIDI port selected as the Output port for the ClyphX control surface. Also, all values in MIDI Actions should be entered in decimal (as opposed to hexadecimal).

[2] The SCENE-related Actions do not actually Launch Scenes, they Launch every Clip on a Scene. For this reason, they will function similar to Launching Scenes when Start Recording on Scene Launch is turned on.

[3] These Actions require Live 9 or later.

[4] The RPT Actions require Live 9 or later. These also require that a controller be selected as the Input of the ClyphX control surface and that its Track switch be turned on. When RPT is on, notes sent from the controller will produce a consistent stream of rhythmic notes at the specified rate.

Track Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
ADDCLIP	Creates a 1 Bar MIDI Clip in the selected Clip Slot on the Track. [2]	-
ADDCLIP x	**x** is the Scene number of the Clip Slot where a 1 Bar MIDI Clip will be created. Specify SEL for the selected Scene. [2]	`ADDCLIP 10, ADDCLIP 3,` `ADDCLIP SEL`
ADDCLIP x y	**x** is the Scene number of the Clip Slot where a MIDI Clip will be created that is **y** Bars long. Specify SEL for the selected Scene. [2]	`ADDCLIP 10 4, ADDCLIP 3 8,` `ADDCLIP SEL 0.25`
ARM	Toggle, turn on or turn off Track Arm. [1]	`ARM, ARM ON, ARM OFF`

CUE	Adjust Preview Volume (Master Track only). This is a Continuous Parameter.	`MST/CUE <, MST/CUE >,`
		`MST/CUE RESET, MST/CUE RND,`
		`MST/CUE 50, MST/CUE 100`

DEL	Deletes the Track. It is not possible to Delete a Track if it's the only Track in the Set. Returns and the Master cannot be Deleted. [2]	-
DELDEV x	**x** is the number of the Device (based on the Device's position on the Track) to Delete. Only top-level Devices (Devices that aren't inside of Racks) can be Deleted. [2]	`DELDEV 1, DELDEV 5`
DUPE	Duplicates the Track. Returns and the Master cannot be Duplicated. [2]	-
FOLD	Toggle, turn on or turn off Track Fold.	`FOLD, FOLD ON, FOLD OFF`
IN x	**x** is the name of the Track Input Routing selection.	`IN COMPUTER KEYBOARD`
IN < or >	Select the Prev/Next Track Input Routing selection.	`IN <, IN >`
INSUB x	**x** is the name of the Track Input Sub-Routing selection.	`INSUB CH. 1`

INSUB ⟨ or **⟩**	Select the Prev/Next Track Input Sub-Routing selection.	`INSUB <, INSUB >`
JUMP X	**X** is the number of beats to jump the Playback Position of the playing Clip on the Track Backward/Forward by.	`JUMP 1, JUMP -5, JUMP 7`
MON or **MON X**	Toggle Track Monitoring state or set a particular state where **X** is the state to set.	`MON` `MON IN, MON AUTO, MON OFF`
MUTE	Toggle, turn on or turn off Track Mute.	`MUTE, MUTE ON, MUTE OFF`
NAME X	**X** is the new name for the Track. The new name will be capitalized.	`NAME BKG VOCALS`
OUT X	**X** is the name of the Track Output Routing selection.	`OUT TO MT PLAYER 1`
OUT ⟨ or **⟩**	Select the Prev/Next Track Output Routing selection.	`OUT <, OUT >`
OUTSUB X	**X** is the name of the Track Output Sub-Routing selection.	`OUTSUB CH. 10`
OUTSUB ⟨ or **⟩**	Select the Prev/Next Track Output Sub-Routing selection.	`OUTSUB <, OUTSUB >`
PAN X	Adjust Track Pan. This is a Continuous Parameter.	`PAN <, PAN >, PAN RESET, PAN RND,` `PAN 50, PAN 100`
PLAY	When accessed via an X-Clip, Launch the Clip Slot on the same Scene as the X-Clip. Otherwise, re-Launch the playing Clip Slot or Launch the Clip Slot at the selected Scene.	-

PLAY X	**X** is the Scene number of the Clip Slot to Launch. Specify SEL for the selected Scene. You can alternatively specify the name of the Clip enclosed in quotes.	`PLAY 10, PLAY 3,`
		`PLAY SEL`
		`PLAY "My Clip"`

PLAY RND	Launch a Clip Slot at a randomly selected Scene. [3]	-
PLAY RNDX-y	Launch a Clip Slot at a randomly selected Scene in the range of **X-y** (where both **X** and **y** are in the range of 1 – the number of Scenes in the Set).	`PLAY RND5-10, PLAY RND96-142`
PLAY ⟨ or **⟩**	Launch the Prev/Next Clip Slot relative to the playing Clip. This will not Launch empty slots and does not apply to Group Tracks.	`PLAY <, PLAY >`
PLAY ⟨X or **⟩X**	Launch the Clip Slot that is **X**-Scenes prior to or after the playing Clip. This does not apply to Group Tracks.	`PLAY <5, PLAY >3`
RENAMEALL	Rename all the Clips on the Track based on the Track's name.	-
RENAMEALL X	Rename all the Clips on the Track where **X** is the base name to use.	`RENAMEALL DRUMS`
SEL	Select the Track and highlight the playing Clip or the Clip at the selected Scene.	-
SEL X	Select the Track and a particular Slot where **X** is the Scene number of the Slot.	`SEL 10, SEL 3`

SEND ltr X	**ltr** is the letter of the Track Send to adjust. This is a Continuous Parameter.	`SEND A <, SEND A >,`
		`SEND A RESET, SEND A RND,`
		`SEND A 50, SEND A 100`

SNAP	Store/recall snapshot of Track and Device settings. See Snap Action for more info on this.	`SNAP, SNAP DEV, SNAP MIX,` `SNAP MIX+, SNAP PLAY`
SOLO	Toggle, turn on or turn off Track Solo. [1]	`SOLO, SOLO ON, SOLO OFF`
STOP	Stop the playing Clip on the Track.	-
STOP NQ	Stop the playing Clip on the Track immediately (not quantized). [2]	-
VOL X	Adjust Track Volume. This is a Continuous Parameter.	`VOL <, VOL >, VOL RESET,  VOL RND,` `VOL 50, VOL 100`
XFADE or **XFADE X**	Toggle Track Crossfade assignment or set a particular state where **X** is the state to set.	`XFADE` `XFADE A, XFADE B, XFADE OFF`

XFADER X	Adjust Master Crossfader (Master Track only). This is a Continuous Parameter.	`MST/XFADER <, MST/XFADER >,`
		`MST/XFADER RESET,  MST/XFADER RND,`
		`MST/XFADER 50, MST/XFADER 100`

[1] The ARM and SOLO Actions will not obey your Preference settings for Exclusive Arm and Solo. If you'd like to exclusively arm/solo a Track, use an Action List with UNARM/UNSOLO before ARM/SOLO. For example, to exclusively solo the Selected Track: [ID] UNSOLO ; SEL/SOLO

[2] These Actions require Live 9 or later.

Track Actions are all Track-based Actions.

Play Action Variations
When used in Live 9 or later, all of the PLAY Actions offer some variations. In all cases, these variations will not launch empty Clip Slots.

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
PLAYL	Launch a Clip with Legato using the current Global Quantization value.	`PLAYL "My Clip", PLAYL RND,` `PLAYL >`

PLAYQ	Launch a Clip at a specific quantization (regardless of the current Global Quantization value or the Clip's Launch Quantization). The quantization values that can be used are the same as those mentioned for the GQ Action.	`PLAYQ NONE "My Clip"`
		`PLAYQ 1 BAR RND`
		`PLAYQ 1/4 >`

PLAYLQ	This is a combination of the previous two variations.	-

Device Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
DEV	Toggle, turn on or turn off Device On/Off switch.	DEV, DEV ON, DEV OFF
DEV CHAINc MUTE	Toggle, turn on or turn off Chain Mute where c is the number of the Chain. [5]	DEV CHAIN2 MUTE, DEV CHAIN4 MUTE ON DEV CHAIN1 MUTE OFF
DEV CHAINc PAN X	Adjust Chain Pan where c is the number of the Chain. [5] This is a Continuous Parameter.	DEV CHAIN2 PAN <, DEV CHAIN4 PAN >, DEV CHAIN6 PAN RESET, DEV CHAIN2 PAN RND, DEV CHAIN25 PAN 50
DEV CHAINc SOLO	Toggle, turn on or turn off Chain Solo where c is the number of the Chain. [5]	DEV CHAIN2 SOLO, DEV CHAIN4 SOLO ON DEV CHAIN1 SOLO OFF
DEV CHAINc VOL X	Adjust Chain Volume where c is the number of the Chain. [5] This is a Continuous Parameter.	DEV CHAIN2 VOL <, DEV CHAIN4 VOL >, DEV CHAIN6 VOL RESET, DEV CHAIN2 VOL RND, DEV CHAIN25 VOL 50
DEV CS X	Adjust Device Chain Selector value. This is a Continuous Parameter.	DEV CS <, DEV CS >, DEV CS RESET, DEV CS RND, DEV CS 50, DEV CS 100
DEV CSEL X	X is the number of the Chain to select. [4]	DEV CSEL 10, DEV CSEL 3
DEV CSEL < or >	Navigate to the Prev/Next Chain. [4]	DEV CSEL <, DEV CSEL >
DEV Bn Pp X	Adjust Device Bank parameter 1 - 8 where n in the number of the bank and p in the number of the parameter within the bank to adjust. This is a Continuous Parameter. [1]	DEV B1 P1 <, DEV B2 P1 >, DEV B3 P1 RESET, DEV B4 P1 RND, DEV B5 P1 50, DEV B6 P1 100
DEV Pp X	Adjust Device Best-of-Bank parameter 1 - 8 where p in the number of the parameter (or macros in the case of rack) to adjust. This is a Continuous Parameter. [1]	DEV P1 <, DEV P1 >, DEV P1 RESET, DEV P1 RND, DEV P1 50, DEV P1 100
DEV RND	Randomize Device parameters. [2]	-
DEV RESET	Reset Device parameters. [2]	-
DEV SEL	Select the Device and bring the Track it is on into view. If the Device is nested in a Rack and is hidden, it cannot be selected.	-
DEV SET	This Action is only accessible to X-Clips and should not be combined with other Actions. This will capture the values of the 8 Macros in a Rack and add them to the X-Clip's name, thus creating a Dev Set x Action. Once the Dev Set x Action has been created, you can then combine it with other Actions if you like.	-
DEV SET X	X is a space-separated list of 8 Continuous Parameter values/keywords that will set the values of all 8 Macros in a Rack at once.	DEV SET 0 10 20 30 40 50 60 70, DEV SET 1 RND 3 > < 127 0 <5
LOOPER	Toggle, turn on or turn off Looper's On/Off switch. [3]	LOOPER, LOOPER ON, LOOPER OFF
LOOPER X	X is the Looper state to set. [3]	LOOPER STOP, LOOPER REC, LOOPER PLAY, LOOPER OVER
LOOPER REV	Toggle, turn on or turn off Looper's Reverse switch. [3]	LOOPER REV, LOOPER REV ON, LOOPER REV OFF

[1] See the included "Live Instant Mapping Info.html" for more info on device parameters.

[2] The DEV RND and DEV RST Actions will not affect Chain Selectors, on/off switches or multi-option controls (like a filter type chooser) and cannot be applied to Macrobat Racks (except for the MIDI Rack).

[3] The LOOPER Actions will apply to the first Looper device on the Track.

[4] These Actions require Live 9 or later.

[5] In Live 9 or later, the DEV CHAIN Actions can be applied to the selected Chain by simply leaving out the Chain number like so, DEV CHAIN MUTE.

Device Actions are all Track-based Actions.   In addition, Device Actions (DEV) will apply to the Device selected on the Track. If no Device is selected, Device Actions will apply to the first Device on the Track. To operate on a different Device, specify the Device number (based on the Device's position on the Track) after the word DEV. For example, to operate on the second Device on Track 1:
`1/DEV2 RESET`

You can alternatively specify the Device name enclosed in quotes (`1/DEV`"`Auto Filter`" `RND`).

The Device Actions can also be applied to Devices nested in a Rack (aka Sub-Devices), however, this only supports one level of nesting. In other words, you cannot operate on Devices nested within Sub-Devices.

To operate on a Sub-Device nested in a Rack, specify the Device number of the Rack (based on the Rack's position on the Track), then the Chain number and then the Sub-Device number (based on the Sub-Device's position on the Chain) after the word DEV. You'll also need to use a period in between each number. For example, to operate on the third Sub-Device on the fifth Chain of the second Device on Track 1: `1/DEV2.5.3 RND`

Drum Rack Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
DR PAD MUTE	Toggle, turn on or turn off Drum Rack Pad Mute.	`DR PAD MUTE,` `DR PAD MUTE ON, DR PAD MUTE OFF`

DR PAD PAN X	Adjust Drum Rack Pad Pan. This is a Continuous Parameter.	`DR PAD PAN <, DR PAD PAN >,`
		`DR PAD PAN RESET, DR PAD PAN RND,`
		`DR PAD PAN 50, DR PAD PAN 100`

DR PAD SEL	Select the Drum Rack Pad.	-

DR PAD SEND ltr X	**ltr** is the letter of the Drum Rack Pad Send to adjust. This is a Continuous Parameter.	`DR PAD SEND A <, DR PAD SEND A >,`
		`DR PAD SEND A RESET,`
		`DR PAD SEND A RND,`
		`DR PAD SEND A 50,`
		`DR PAD DR PAD SEND A 100`

DR PAD SOLO	Toggle, turn on or turn off Drum Rack Pad Solo.	`DR PAD SOLO,` `DR PAD SOLO ON, DR PAD SOLO OFF`

DR PAD VOL X	Adjust Drum Rack Pad Volume. This is a Continuous Parameter.	`DR PAD VOL <, DR PAD VOL >,`
		`DR PAD VOL RESET, DR PAD VOL RND,`
		`DR PAD VOL 50, DR PAD VOL 100`

DR SCOLL < or **>**	Scroll the Drum Rack Selector down or up by increment of 1.	`DR SCROLL <, DR SCROLL >`
DR SCOLL <X or **>X**	Scroll the Drum Rack Selector down or up by increment of **X**.	`DR SCROLL <4, DR SCROLL >8`
DR UNMUTE	Unmute all Drum Rack Pads.	-
DR UNSOLO	Unsolo all Drum Rack Pads.	-

Drum Rack Actions require Live 9 or later, are all Track-based Actions and will apply to the first Drum Rack on the Track. In addition, Drum Rack Pad Actions (DR PAD) will apply to the selected Drum Rack Pad. To operate on a different Drum Rack Pad, specify the number of the visible Drum Rack Pad to operate on (in the range of 1 – 16) after the word PAD. This numbering starts in the lower left of the visible Drum Rack Pads. For example, to operate on the 2nd visible Drum Rack Pad on Track 2: `2/DR PAD2 MUTE`

To operate on all visible Drum Rack Pads, specify ALL after the word PAD. For example, to operate on all visible Drum Rack Pads on Track 1: `1/DR PADALL VOL RND`

Clip Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
CLIP	Toggle, turn on or turn off the Clip's Activator switch.	`CLIP, CLIP ON, CLIP OFF`
CLIP CENT X	**X** is the Audio Clip Detune value to set.	`CLIP CENT -12, CLIP CENT 5`
CLIP CENT < or **>**	Dec/Inc Audio Clip Detune value by increment of 1.	`CLIP CENT <, CLIP CENT >`
CLIP CENT <X or **>X**	Dec/Inc Audio Clip Detune value by increment of **X**.	`CLIP CENT <2, CLIP CENT >5`
CLIP CHOP	Duplicates the Clip 8 times and sets evenly distributed Start/Loop Start positions (starting from the Clip's current Start/Loop Start) across the duplicates. As with any duplication of a Clip, this will overwrite Clips that exist in the Clip Slots beneath the Clip that will be duplicated. [1]	-
CLIP CHOP X	Same as CLIP CHOP, but **X** is the number of times the Clip will be duplicated. [1]	`CHOP 4, CHOP 16, CHOP 32`
CLIP CUE X	Set the cue point (position to play from) of the Clip. See Clip Cue Action for more info on this.	`CLIP CUE 2, CLIP CUE >`
CLIP DEL	Deletes the Clip. [1]	-

CLIP DUPE	Duplicates the Clip. [1]	–
CLIP END X	X is the Clip End to set in beats. [1]	`CLIP END 4, CLIP END 16`
CLIP END < or >	Dec/Inc the Clip's End by 1 beat. [1]	`CLIP END <, CLIP END >`
CLIP END <X or >X	Dec/Inc the Clip's End by increment of X. [1]	`CLIP END <2, CLIP END >0.5`
CLIP ENVCLR	Clears all envelopes from the Clip. [2]	–
CLIP ENVCAP	Creates envelopes in the Clip for the current settings of the associated Track's mixer and/or Devices. See Clip EnvCap Action for more info.	`CLIP ENVCAP, CLIP ENVCAP DEV,` `CLIP ENVCAP MIX`
CLIP ENVCLR X	X is the parameter associated with the envelope to clear from the Clip. [2]	`CLIP ENVCLR VOL,` `CLIP ENVCLR DEV2 B1 P6`
CLIP ENVHIDE	Hides the Clip's envelope view. This actually applies to all Clips. [2]	–

CLIP ENVINS X y	X is the parameter to insert an envelope for in the Clip and y is the type of envelope to insert. This will first clear the parameter's envelope if one exists. The types of envelopes are:
	IRAMP – Linear increasing ramp.
	DRAMP – Linear decreasing ramp.
	IPYR – Linear increase until midpoint and then linear decrease.
	DPYR – Linear decrease until midpoint and then linear increase.
	SAW – Saw wave synced to 1/4 notes.
	SQR – Square wave synced to 1/4 notes.
	
	If the Clip is looping, the envelope will start and end within the loop. Otherwise, the envelope will span the entire length of the Clip.
	
	Envelopes can only be inserted for parameters that are not quantized. Examples of quantized parameters are an on/off switch or a filter type chooser. [2]
		`CLIP ENVINS PAN SAW,`
		`CLIP ENVINS DEV P5 IRAMP,`
		`CLIP ENVINS SEND A DPYR,`
		`CLIP ENVINS SEL SQR`

CLIP ENVINS x y a b	Same as above except that a is the minimum value and b is the max value of the envelope. These values are specified in terms of percentages (in the range of 0 – 100) of the parameter's max value. [2]	`CLIP ENVINS PAN SAW 50 75,`
		`CLIP ENVINS DEV P5 IRAMP 0 10,`
		`CLIP ENVINS SEND A DPYR 20 60,`
		`CLIP ENVINS SEL SQR 75 100`

CLIP ENVSHOW	Shows the Clip's envelope view. This actually applies to all Clips. [2]	–

CLIP ENVSHOW X	X is the parameter associated with the envelope to show in envelope view. [2]	`CLIP ENVSHOW VOL,`
		`CLIP ENVSHOW DEV2 B1 P6`
		`CLIP ENVSHOW SEL`

CLIP EXTEND	Doubles the Loop Length of the MIDI Clip and duplicates its content. If Loop is on, will zoom out to show the entire Loop. [1]	–
CLIP GAIN X	X is the Audio Clip Gain to set in the range of 0 – 127. [1]	`CLIP GAIN 0, CLIP GAIN 64,`
CLIP GAIN < or >	Dec/Inc Audio Clip Gain by increment of 1. [1]	`CLIP GAIN <, CLIP GAIN >`
CLIP GAIN <X or >X	Dec/Inc Audio Clip Gain by increment of X. [1]	`CLIP GAIN <5, CLIP GAIN >2`

CLIP GRID X	X is the fixed grid setting to apply to the Clip. [1]	`CLIP GRID OFF, CLIP GRID 8 BARS,`
		`CLIP GRID 4 BARS, CLIP GRID 2 BARS,`
		`CLIP GRID 1 BAR, CLIP GRID 1/2,`
		`CLIP GRID 1/4, CLIP GRID 1/8,`
		`CLIP GRID 1/16, CLIP GRID 1/32`

CLIP LOOP	Toggle, turn on or turn off Clip Loop.	`CLIP LOOP, CLIP LOOP ON,` `CLIP LOOP OFF`

CLIP LOOP X	X is the Loop Length to set in Bars. If the Clip is playing, this will move the start of the Loop to the current Playback Position (using Beat quantization). To use Bar quantization, add a 'B' after the Length.	`CLIP LOOP 0.25, CLIP LOOP 0.5,`
		`CLIP LOOP 2`
		`CLIP LOOP 0.5B, CLIP LOOP 2B`

CLIP LOOP *X	X is the value to multiply the Loop Length by.	`CLIP LOOP *0.5, CLIP LOOP *2`
CLIP LOOP < or >	Move the Clip Loop Backward/Forward by its length.	`CLIP LOOP <, CLIP LOOP >`
CLIP LOOP <X or >X	Move the Clip Loop Backward/Forward by X number of beats.	`CLIP LOOP <4, CLIP LOOP >16`
CLIP LOOP END X	X is the Clip Loop End (End if Loop is off) to set in beats.	`CLIP LOOP END 4, CLIP LOOP END 16`
CLIP LOOP END < or >	Dec/Inc the Clip Loop End (End if Loop is off) by 1 beat.	`CLIP LOOP END <, CLIP LOOP END >`
CLIP LOOP END <X or >X	Dec/Inc the Clip Loop End (End if Loop is off) by increment of X.	`CLIP LOOP END <2, CLIP LOOP END >0.5`
CLIP LOOP RESET	Reset Clip Loop Start to 1.1.1 and Clip Loop End to Clip End Marker.	–
CLIP LOOP SHOW	Zoom in or out to show the Clip's entire Loop. This will do nothing if the Clip isn't visible or its Loop is off. [1]	–
CLIP LOOP START X	X is the Clip Loop Start (Start if Loop is off) to set in beats.	`CLIP LOOP START 4, CLIP LOOP START 8`
CLIP LOOP START < or >	Dec/Inc the Clip Loop Start (Start if Loop is off) by 1 beat.	`CLIP LOOP START <, CLIP LOOP START >`
CLIP LOOP START <X or >X	Dec/Inc the Clip Loop Start (Start if Loop is off) by increment of X.	`CLIP LOOP START <2,` `CLIP LOOP START >0.5`
CLIP NAME X	X is the new name for the Clip. The new name will be capitalized.	`CLIP NAME DRUMS`
CLIP NOTES	Toggle, turn on or turn off the mute status of Notes.	`CLIP NOTES, CLIP NOTES ON,` `CLIP NOTES OFF`
CLIP NOTES CMB	Combine each set of two consecutive Notes into a single Note.	–

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CLIP NOTES COMP	Compress the duration of Notes.	-
CLIP NOTES DEL	Delete Notes.	-
CLIP NOTES EXP	Expand the duration of Notes	-
CLIP NOTES GATE < or **>**	Dec/Inc the length of Notes by one 128th note.	`CLIP NOTES GATE <, CLIP NOTES GATE >`
CLIP NOTES GATE <X or **>X**	Dec/Inc the length of Notes by **X** 128th notes.	`CLIP NOTES GATE <4,` `CLIP NOTES GATE >8`
CLIP NOTES INV	Invert the pitches of Notes.	-
CLIP NOTES NUDGE < or **>**	Nudge Notes Backward/Forward by one 128th note.	`CLIP NOTES NUDGE <,` `CLIP NOTES NUDGE >`
CLIP NOTES NUDGE <X or **>X**	Nudge Notes Backward/Forward by **X** 128th notes.	`CLIP NOTES NUDGE <4,` `CLIP NOTES NUDGE >8`
CLIP NOTES REV	Reverse the position of Notes.	-
CLIP NOTES SCRN	Scramble the pitches of Notes while maintaining rhythm. [1]	-
CLIP NOTES SCRP	Scramble the position of Notes while maintaining pitches. [1]	-
CLIP NOTES SPLIT	Split each Note into two equally sized Notes.	-
CLIP NOTES VELO X	**X** is the Note velocity to set.	`CLIP NOTES VELO 64,` `CLIP NOTES VELO 127`
CLIP NOTES VELO < or **>**	Dec/Inc the velocity of Notes by increment of 1.	`CLIP NOTES VELO <, CLIP NOTES VELO >`
CLIP NOTES VELO <X or **>X**	Dec/Inc the velocity of Notes by increment of **X**.	`CLIP NOTES VELO <5,` `CLIP NOTES VELO >10`
CLIP NOTES VELO << or **CLIP NOTES VELO >>**	Apply a decrescendo (descending velocities) or a crescendo (ascending velocities) to Notes.	`CLIP NOTES VELO <<,` `CLIP NOTES VELO >>`
CLIP NOTES VELO RND	Randomize the velocity of Notes.	

CLIP QNTZ X	**X** is the value to Quantize the Clip's Notes or Warp markers to. [1]	`CLIP QNTZ 1/4,`
		`CLIP QNTZ 1/8, CLIP QNTZ 1/8T,`
		`CLIP QNTZ 1/8 + 1/8T,`
		`CLIP QNTZ 1/16, CLIP QNTZ 1/16T,`
		`CLIP QNTZ 1/16 + 1/16T,`
		`CLIP QNTZ 1/32`

CLIP QNTZ X y	Same as CLIP QNTZ X, but **y** is the Strength of quantization (in the range of 0 - 100) to apply. [1]	`CLIP QNTZ 1/16 50,` `CLIP QNTZ 1/8 25`
CLIP QNTZ X y z	Same as CLIP QNTZ X Y, but **z** is the amount of Swing (in the range of 0 - 100) to apply. [1]	`CLIP QNTZ 1/16 100 50,` `CLIP QNTZ 1/16 50 25`

CLIP QNTZ n X
CLIP QNTZ n x y
CLIP QNTZ n x y z
	Same as the CLIP QNTZ Actions listed above, but **n** is the Pitch Name or Pitch Range to Quantize. [1]	`CLIP QNTZ C3 1/8,`
		`CLIP QNTZ D#4-C5 1/32 50,`
		`CLIP QNTZ E1 1/16 50 25`

CLIP SEMI X	**X** is the Audio Clip Transpose value to set.	`CLIP SEMI -12, CLIP SEMI 5`
CLIP SEMI < or **>**	Dec/Inc Audio Clip Transpose value or Notes pitch by 1 semitone.	`CLIP SEMI <, CLIP SEMI >`
CLIP SEMI <X or **>X**	Dec/Inc Audio Clip Transpose value or Notes pitch by **X** semitones.	`CLIP SEMI <5, CLIP SEMI >10`
CLIP SIG x/y	**X** is the Time Signature Numerator value and **y** is the Time Signature Denominator value.	`CLIP SIG 4/4, CLIP SIG 6/8,` `CLIP SIG 16/2`
CLIP SPLIT X	**X** is the length of the segments (in beats) to split a Clip into. This will duplicate the Clip and set each segment to be the specified length. As with any duplication of a Clip, this will overwrite Clips that exist in the Clip Slots beneath the Clip that will be duplicated. [1]	`CLIP SPLIT 1, CLIP SPLIT 0.25,` `CLIP SPLIT 4`
CLIP START X	**X** is the Clip Start to set in beats. [1]	`CLIP START 4, CLIP START 16`
CLIP START < or **>**	Dec/Inc the Clip's Start by 1 beat. [1]	`CLIP START <, CLIP START >`
CLIP START <X or **>X**	Dec/Inc the Clip's Start by increment of **X**. [1]	`CLIP START <2, CLIP START >0.5`
CLIP TGRID	Toggle, turn on or turn off the Clip's triplet grid setting. [1]	`CLIP TGRID, CLIP TGRID ON,` `CLIP TGRID OFF`
CLIP WARP	Toggle, turn on or turn off the Clip's Warp switch.	`CLIP WARP, CLIP WARP ON,` `CLIP WARP OFF`
CLIP WARPMODE X	**X** is the name of the Warp Mode (as shown in the Warp Mode menu) to set. This cannot be applied if the Warp Mode is currently REX. [1]	`CLIP WARPMODE BEATS,` `CLIP WARPMODE COMPLEX`
CLIP WARPMODE < or **>**	Move to the Prev/Next Warp Mode. This cannot be applied if the Warp Mode is currently REX. [1]	`CLIP WARPMODE <, CLIP WARPMODE >`

[1] These Actions require Live 9 or later.

[2] These Actions require Live 9.1 or later. When specifying envelope related parameters, you can use VOL (for Track Volume), PAN (for Track Pan) and SEND ltr (for Track Sends). To specify the parameters of a device, you can use the same syntax that is covered in Device Actions and as shown in the examples in the above table. You can alternatively specify SEL to insert an envelope for the selected parameter (the last parameter you clicked on with your mouse). However, this will only work if the selected parameter is on the Track containing the Clip. Also, note that launching a Clip or Scene with your mouse will de-select the selected parameter.

Clip Actions are all Track-based Actions. In addition, all of the Clip Actions (CLIP), the Clip Cue Action and the Clip EnvCap Action covered in the following sections will apply to the Playing Clip or (if no Clip is playing) the selected Slot on the Track. To operate on a different Clip, specify the Slot number of the Clip after the word CLIP: `1/CLIP1 LOOP *2`

To operate specifically on the selected Slot or the Clip selected in Arrangement View, specify SEL (`CLIPSEL WARP`). You can alternatively specify the Clip name enclosed in quotes (`1/CLIP"My Clip" LOOP`).

By default, the Clip Note Actions (CLIP NOTES) will apply to all the Notes in a MIDI Clip that fall within the Loop Start/End markers (if Loop is on) or the Start/End markers (if Loop is off). To operate just on a particular pitch (or a range of pitches), specify the name (or number) of the pitch (or range) after the word NOTES. For example:
```
CLIP NOTESC#3 REV
CLIP NOTESF4-F#5 VELO <<
CLIP NOTES60 NUDGE >
```

To operate on Notes that fall on a particular time position (or a range of time positions) in the Clip, specify the position (or range) and use @ as a prefix. Positions should be specified in absolute beat time (where 1/4 note is equal to 1.0). So, in 4/4, beat 1 would be 0.0, beat 2 would be 1.0, etc. For example:
```
CLIP NOTES @1.0 GATE >
CLIP NOTES @0.5-1.5 SPLIT
```

You can specify both a pitch (or pitch range) and a position (or position range) to operate on. For example: `CLIP NOTESC3-F3 @4.0 DEL`

NOTE: When specifying ranges, there should be no space before or after the hyphen.

Clip Cue Action

Upon triggering an X-Trigger with a Clip Cue Action, the specified Clip's Start and Loop Start (if Loop is on) will move to the specified Cue point. This is a Track-based Action and can be applied to Clips in the same way as the Clip Actions mentioned in the previous section.

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
CLIP CUE X	**X** is the position of the cue in absolute beat time. This is different than the bar/beat/sixteenths position shown in Live's Clip View. For example, position 1.1.1 is 0 in absolute beat time.	`CLIP CUE 2, CLIP CUE 5.25`
CLIP CUE < or >	Move the cue point Backward/Forward by increment of 1 beat.	`CLIP CUE <, CLIP CUE >`
CLIP CUE <X or >X	Move the cue point Backward/Forward by increment of **X** beats.	`CLIP CUE <0.5, CLIP CUE >2`

If you don't know/don't want to figure out the position in absolute beat time, you can set it and capture it. To set it, move the Clip's Start marker (if Loop is off) or the Clip's Loop Start marker (if Loop is on) to the desired position. Then create an X-Clip with the following name (the X-Clip name cannot contain other Actions): `CLIP CUE`

Upon playing, the position you specified will be added to the end of the X-Clip's name. You can then combine it with other Actions if you like.

NOTE: This Action will not work on Audio Clips that aren't Warped and will not work correctly with a Global or Launch Quantization of None.

Clip EnvCap Action

This Action creates envelopes in the Clip for the current settings of the associated Track's mixer and/or Devices. This is a Track-based Action and can be applied to Clips in the same way as Clip Actions.

The default Clip EnvCap Action name is `CLIP ENVCAP`. This will apply to the Volume, Pan and Sends settings of the associated Track. This also applies to the settings of the first Device on the associated Track.

You can modify the settings that the Clip EnvCap Action will capture by using optional words/numbers (Modifiers) in the Action Name.

MODIFERS	DESCRIPTION	VARIATIONS/EXAMPLES
DEV	Capture the settings of the first Device on the Track.	-
DEVX	Capture the settings of the Device where X is the number of the Device.	CLIP ENVCAP DEV2, CLIP ENVCAP DEV3
DEVx-y	Capture the settings of the Devices in the specified range where X is the Device number to start with and Y is the Device number to end with. There should be no space before or after the hyphen. To operate on all Devices, specify ALL.	CLIP ENVCAP DEV1-4, CLIP ENVCAP DEV2-5, CLIP ENVCAP DEVALL
MIX	Capture the Volume, Pan and Sends settings of the Track.	-
MIX-	Capture the Volume and Pan settings of the Track.	-
MIXS	Capture the Sends settings of the Track.	-

Multiple Modifiers can be used though you should not use more than one of the Mix Modifiers. For example, to capture the settings of all of the Devices on a Track as well as settings stored by MIX-:
`CLIP ENVCAP DEVALL MIX-`

NOTE: When creating envelopes for a large number of parameters, Live's GUI may momentarily freeze.

Control Surface Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
CS**N** **X**/ACTION NAME	Apply a Track, Device, Drum Rack, Clip or Clip Cue Action to Channel Strip number **X**. [1]	`CS1 1/MUTE, CS"APC40" 4/DEV RND,` `CS3 8/CLIP SEMI >`
CS**N** **x–y**/ACTION NAME	Apply a Track, Device, Drum Rack, Clip or Clip Cue Action to Channel Strip numbers **x–y**. There should be no space before or after the hyphen. To operate on all Channel Strips, specify ALL. [1]	`CS1 1-4/FOLD, CS"Push" 4-8/DEV,` `CS3 ALL/CLIP START >`
CS**N** BANK **X**	Move the Surface's Track Bank selection forward/backward by **X** and select the first Track in the new Bank selection. Use 'First' or 'Last' to select the First/Last Track Bank. [1] This works even with Surfaces without Track Banks, like User Remote Scripts for example.	`CS1 BANK 1, CS"MPD32" BANK -1,` `CS4 BANK 8, CS2 FIRST, CS2 BANK LAST`
CS**N** COLORS **x y z**	Change the color of the Clip Launch LEDs where **X** is the color to use for playing Clips, **y** is the color to use for recording Clips and **Z** is the color to use for stopped Clips. The available colors are: Amber, Green and Red. [2] This is a temporary change that will be reverted upon set load.	`CS1 COLORS RED AMBER GREEN,` `CS"APC20" COLORS GREEN RED AMBER`
CS**N** DEV LOCK	Toggle the Surface's lock on Devices. This requires that the Surface has Device Controls.	`CS1 DEV LOCK`
CS**N** METRO ON or CS**N** METRO OFF	Cause the APC's Clip Stop buttons or the Launchpad's Right-Side buttons (in every mode except for User 1) to display a visual metronome. The buttons will still function as usual. [2]	`CS1 METRO ON,` `CS"Launchpad" METRO OFF`

CS**N** RING T**x** S**y**	**X** is the name or number of the first Track outlined by the ring. **y** is the name of number of the first Scene outlined by the ring. Only one of these has to be specified so that you can change the Scene offset without changing the Track offset and vice versa. [3]	`CS1 RING T1 S20,`
		`CS"APC40" RING S"My Scene",`
		`CS4 RING T5,`
		`CS"Push" RING T"My Track" S100`

CS**N** RING T**<** or **>** S**<** or **>**	Move the ring Backward/Forward by increment of 1 Track and/or 1 Scene. Only of these has to be specified so that you can increment Tracks without incrementing Scenes and vice versa. [3]	`CS"APC40" RING T> S<`
		`CS1 RING T<, CS1 RING T>`
		`CS4 RING S<, CS4 RING S>`

CS**N** RING T**<X** or **>X**
S**<X** or **>X**
	Move the ring Backward/Forward by increment of **X** Tracks and/or **X** Scenes. Only of these has to be specified so that you can increment Tracks without incrementing Scenes and vice versa. [3]	`CS"APC40" RING T>4 S<8`
		`CS1 RING T<2, CS1 RING T>10`
		`CS4 RING S<20, CS4 RING S>5`

CS**N** RING LAST	Moves the ring back to the position it was at prior to triggering one of the Ring Actions described above.	`CS"APC40" RING LAST` `CS1 RING LAST`

CS**N** RINGLINK T S	Causes the Surface's ring to be linked to the selected Track and/or Scene. Only of these has to be specified so that you can link to Tracks without linking to Scenes and vice versa. You can also specify CENTER, which will cause the ring to be centered around the selected Track and/or Scene. [3]	`CS"APC40" RINGLINK T S`
		`CS1 RINGLINK T CENTER`
		`CS"Push" RINGLINK S`

CS**N** RINGLINK OFF	Turns the Surface's ring linking off. [3]	`CS"APC40" RINGLINK OFF` `CS1 RINGLINK OFF`
CS**N** RPT	Toggle Note Repeat on/off. [4]	`CS1 RPT, CS"MPD32" RPT`

CS**N** RPT **X**	**X** is the Note Repeat rate to set. [4]	`CS1 RPT OFF, CS1 RPT 1/4,`
		`CS1 RPT 1/4T, CS1 RPT 1/8,`
		`CS1 RPT 1/8T, CS1 RPT 1/16,`
		`CS1 RPT 1/16T, CS1 RPT 1/32,`
		`CS1 RPT 1/32T`

[1] Requires that the Surface has Channel Strip controls (like Volume, Pan, Mute, etc).

[2] Only applies to the APC40, APC20 and Launchpad.

[3] Requires that the Surface has a grid selector (aka red ring).

[4] These require that the controller can send notes to MIDI Tracks and that its Track switch be turned on. When RPT is on, notes sent from the controller will produce a consistent stream of rhythmic notes at the specified rate. Swing can also be applied by using the Swing Actions covered in Global Actions.

The Control Surface Actions relate to other Control Surface scripts that are selected in Live's Control Surface section (in Preferences – MIDI/Sync) where **N** is the number of the Control Surface to operate on (in the range of 1 – 6).   This numbering is based on the number of Control Surface scripts that are selected. For example, if only two scripts are selected, the second script will be CS2 even if the script is selected in Control Surface slot #6.

You can alternatively specify the, one-word name of the Control Surface to operate on enclosed in quotes (such as `CS"APC20" RING T1`). If the name includes spaces (such as *PXT Live*), the spaces should be replaced by underscores (such as *PXT_Live*). However, if multiple Control Surfaces with the same name are in use, it is recommended that you operate on those Control Surfaces by specifying their number. In the case of User Remote Scripts, the (one-word) name specified for InputName in the script's UserConfiguration file is the name you should use when accessing the script by name.

Except where noted, these Actions will work with most of the Control Surface scripts built into Live (as well as User Remote Scripts and most user-created Framework scripts). However, they will not work with some of the legacy scripts such as the Mackie scripts and the Tranzport script. And they will not work with ClyphX/ClyphX_XT.

NOTES: If you're using multiple APC20/40s in Combination Mode, the BANK and RING Actions can only be applied to the first of these and the RINGLINK Action should not be used.

Push Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
PUSH DRINS	Cause Push to enter the standard Note Mode. This allows you to use Note Mode to control a Drum Rack. This will have no effect if the selected Track is not a MIDI Track.	-
PUSH MODE X	**X** is the Push mode to select. For the most part, these work in the same way they would work when pressing buttons on Push. So, for example, if you're in Device Mode, you can't select Stop Mode as it's not available when Device Mode is selected. [1]	PUSH MODE SESSION, PUSH MODE NOTE, PUSH MODE STOP, PUSH MODE SOLO, PUSH MODE MUTE, PUSH MODE VOLUME, PUSH MODE PAN, PUSH MODE TRACK, PUSH MODE CLIP, PUSH MODE DEVICE PUSH MODE MIX
PUSH MSG	Temporarily shows a message in Push's display.	PUSH MSG TRIGGER THE VERSE IN 4 BARS
PUSH SCL	This Action is only accessible to X-Clips and should not be combined with other Actions. This will capture the current Scale settings from Note Mode and store them in the X-Clip. Once settings have been stored, you can then add other Actions if you like or copy the stored settings and paste them into the Action List of other X-Trigger types.	-
PUSH SCL FIXED	Toggle, turn on or turn off the Push's Fixed function	PUSH SCL FIXED, PUSH SCL FIXED ON, PUSH SCL FIXED OFF
PUSH SCL INKEY	Toggle, turn on or turn off the Push's In Key function.	PUSH SCL INKEY, PUSH SCL INKEY ON, PUSH SCL INKEY OFF
PUSH SCL OCT < or >	Move to the Prev/Next Octave offset in Note Mode.	PUSH SCL OCT <, PUSH SCL OCT >
PUSH SCL ROOT X	**X** is the Root Note to use in Note Mode.	PUSH SCL ROOT C, PUSH SCL ROOT F#
PUSH SCL ROOT < or >	Move to the Prev/Next Root Note to use in Note Mode.	PUSH SCL ROOT <, PUSH SCL ROOT >
PUSH SCL TYPE X	**X** is the name of the Scale Type (as shown in Push's display) to use in Note Mode.	PUSH SCL TYPE MAJOR, PUSH SCL TYPE MINOR PENTATONIC
PUSH SCL TYPE < or >	Move to the Prev/Next Scale Type to use in Note Mode.	PUSH SCL TYPE <, PUSH SCL TYPE >
PUSH SEQ X	**X** is the name of the Clip Notes Action to apply to the note lane currently being edited by Push's Drum step-sequencer.	PUSH SEQ VELO RND, PUSH SEQ CMB

[1] Push does not have a MIX mode. Push2 does not have a VOLUME, PAN or TRACK mode.

The Push Actions apply to the Push and Push2 Control Surfaces. These all require that Push or Push2 is selected as a Control Surface.

In addition to the Actions listed here, the standard Control Surface Actions can also be applied to Push. Note, however, that CS**N** x/ACTION NAME, CS**N** x-y/ACTION NAME and CS**N** BANK **x** cannot be applied to Push2. Additionally, CS**N** RINGLINK T S may produce undesirable results when used with Push2 due to Push2's inclusion of Chain mixer settings along side normal Track mixer settings.

PXT-Live Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
PXT ENC RESET	Reset the parameters the Encoders are currently controlling.	-
PXT ENC RND	Randomize the parameters the Encoders are currently controlling.	-
PXT MSG	Temporarily shows a message in Push's display.	`PXT MSG TRIGGER THE VERSE IN 4 BARS`
PXT MSEQ CAP	This Action is only accessible to X-Clips and should not be combined with other Actions. This will capture the current Mono Sequence Sub-Mode settings and store them in the X-Clip. Once settings have been stored, you can then add other Actions if you like or copy the stored settings and paste them into the Action List of other X-Trigger types.	-
PXT MSEQ X	**X** is the name of the Clip Notes Action to apply to the note lane currently being edited by the Mono Sequence Sub-Mode.	`PXT MSEQ VELO RND, PXT MSEQ CMB`
PXT PSEQ CAP	This Action is only accessible to X-Clips and should not be combined with other Actions. This will capture the current Poly Sequence Sub-Mode settings and store them in the X-Clip. Once settings have been stored, you can then add other Actions if you like or copy the stored settings and paste them into the Action List of other X-Trigger types.	-
PXT PSEQ X y	**X** is the number of the note lane in the Poly Sequence Sub-Mode to operate on. The lowest row is note lane 1, the highest row is note lane 8. Specify ALL to operate on all 8 note lanes. **y** is the name of the Clip Notes Action to apply to the specified note lane(s).	`PXT PSEQ 1 VELO RND,` `PXT PSEQ ALL CMB`

The PXT-Live Actions apply to the PXT-Live (or PXT-Live Plus) Control Surface. These all require Live 9 and also require that PXT-Live (or PXT-Live Plus) be selected as a Control Surface.

In addition to the Actions listed here, the standard Control Surface Actions can also be applied to PXT-Live (or PXT-Live Plus).

MXT-Live Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
MXT ENC RESET	Reset the parameters the Encoders are currently controlling.	-
MXT ENC RND	Randomize the parameters the Encoders are currently controlling.	-
MXT MSG	Temporarily shows a message in Maschine MK2's display.	`MXT MSG TRIGGER THE HOOK IN 4 BARS`
MXT SEQ X	**X** is the name of the Clip Notes Action to apply to the note lane currently being edited by the Sequence Super-Mode.	`MXT MSEQ VELO RND, MXT MSEQ CMB`

The MXT-Live Actions apply to the MXT-Live Control Surface. These all require Live 9 and also require that MXT-Live be selected as a Control Surface.

In addition to the Actions listed here, the standard Control Surface Actions can also be applied to MXT-Live.

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Arsenal Actions

ACTION	DESCRIPTION	VARIATIONS/EXAMPLES
ARSENAL_N E_MODE X	X is the number of the Encoder Mode to select. [1]	ARSENAL_AP2_A E_MODE 4, ARSENAL_NLCX_C E_MODE 8
ARSENAL_N E_MODE < or >	Move to Prev/Next Encoder Mode with wrapping. [1]	ARSENAL_BCR_A E_MODE >, ARSENAL_NK1_F E_MODE <
ARSENAL_N LOCK	Lock to or unlocks from the current Track.	ARSENAL_NK2_A LOCK, ARSENAL_LP1_F LOCK
ARSENAL_N LOCK MODES	Toggle the Mode-specific lock function of any Modes that have such a function.	ARSENAL_NLCX_A LOCK MODES, ARSENAL_NK1_F LOCK MODES
ARSENAL_N M_MODE X	X is the number of the Matrix Mode to select.. [2]	ARSENAL_AP4_A M_MODE 4, ARSENAL_LPP_C M_MODE 8
ARSENAL_N M_MODE < or >	Move to Prev/Next Matrix Mode with wrapping. [2]	ARSENAL_LP1_A M_MODE >, ARSENAL_APM_F M_MODE <
ARSENAL_N SCL	This Action is only accessible to X-Clips and should not be combined with other Actions. This will capture the current Scale settings and store them in the X-Clip. Once settings have been stored, you can then add other Actions if you like or copy the stored settings and paste them into the Action List of other X-Trigger types. [3]	ARSENAL_LP2_A SCL, ARSENAL_AP2_F SCL
ARSENAL_N SCL HORZ	Toggle, turn on of turn off the Horizontal Scale setting. [3]	ARSENAL_APM_A SCL HORZ, ARSENAL_LPP_B SCL HORZ ON, ARSENAL_PS1_F SCL HORZ OFF
ARSENAL_N SCL INKEY	Toggle, turn on or turn off the In Key Scale setting. [3]	ARSENAL_AP4_A SCL INKEY, ARSENAL_APM_B SCL INKEY ON, ARSENAL_LPP_F SCL INKEY OFF
ARSENAL_N SCL OFFSET X	X is the name of the Scale Offset (the available Scale Offsets are listed below) to use. [3]	ARSENAL_AP4_A SCL OFFSET SEQUENT, ARSENAL_LPP_F SCL OFFSET 3RDS
ARSENAL_N SCL OFFSET < or >	Move to the Prev/Next Scale Offset to use. [3]	ARSENAL_AP2_A SCL OFFSET <, ARSENAL_LP2_F SCL OFFSET >
ARSENAL_N SCL ROOT X	X is the Root Note to use. Only natural and sharp note names are recognized. [3]	ARSENAL_LP1_A SCL ROOT C, ARSENAL_AP2_F SCL ROOT F#
ARSENAL_N SCL ROOT < or >	Move to the Prev/Next Root Note to use. [3]	ARSENAL_APM_A SCL ROOT <, ARSENAL_LP2_D SCL ROOT >
ARSENAL_N SCL SEQ	Toggle, turn on or turn off the Sequent Layout Scale setting. [3]	ARSENAL_AP2_A SCL SEQ, ARSENAL_APM_C SCL SEQ ON, ARSENAL_LP1_F SCL SEQ OFF
ARSENAL_N SCL TYPE X	X is the name of the Scale Type (the available types are listed below) to use. [3]	ARSENAL_AP4_A SCL TYPE MAJOR, ARSENAL_LPP_F SCL TYPE MINOR
ARSENAL_N SCL TYPE < or >	Move to the Prev/Next Scale Type to use. [3]	ARSENAL_AP2_A SCL TYPE <, ARSENAL_LP2_F SCL TYPE >

[1] Requires that the script has Encoder Modes.

[2] Requires that the script has Matrix Modes.

[3] Requires that the script has at least one Matrix Mode that utilizes Scale settings (such as the Note, Note Plus, Scale or Scale Sequence Mode).

The Arsenal Actions apply to Arsenal-powered Control Surface scripts where N is the name of the script to operate on. These all require Live 9.6.2 or later and also require that at least one Arsenal-powered Control Surface script is selected as a Control Surface.

In addition to the Actions listed here, the standard Control Surface Actions can also be applied to Arsenal-powered Control Surface scripts.

Available Scale Types:

Major, Minor, Dorian, Mixolydian, Lydian, Phrygian, Locrian, Diminished, Whole-half, Whole Tone, Minor Blues, Minor Pentatonic, Major Pentatonic, Harmonic Minor, Melodic Minor, Super Locrian, Bhairav, Hungarian Minor, Minor Gypsy, Hirojoshi, In-Sen, Iwato, Kumoi, Pelog

Available Scale Offsets:

Sequent, 2nds, 3rds, 4ths, 5ths, 6ths

Snap Action

X-Clips (and only X-Clips) can store and recall Snapshots (Snaps) of Track and Device settings. The Snap Action is a Track-based Action, but differs from other Actions as it cannot be used in an Action List.

The default Snap Action name is SNAP. This will apply to the Volume, Pan and Sends settings of the Track. This also applies to the settings of the first Device on the Track.

You can modify the settings that the Snap Action will store by using optional words/numbers (Modifiers) in the Action Name.

MODIFERS	DESCRIPTION	VARIATIONS/EXAMPLES
DEV	Store the settings of the first Device on the Track.	-
DEVX	Store the settings of the Device where **x** is the number of the Device.	SNAP DEV2, SNAP DEV3
DEVx-y	Store the settings of the Devices in the specified range where **x** is the Device number to start with and **y** is the Device number to end with. There should be no space before or after the hyphen. To operate on all Devices, specify ALL.	SNAP DEV1-4, SNAP DEV2-5, SNAP DEVALL
MIX	Store the Volume, Pan and Sends settings of the Track.	-
MIX+	Store the Volume, Pan, Sends, Mute, Solo and Crossfade settings of the Track.	-
MIX-	Store the Volume, Pan, Mute, Solo and Crossfade settings of the Track.	-
MIXS	Store the Sends settings of the Track.	-
PLAY	Store the playing status of the Track. This does not apply to Group Tracks, Return Tracks or the Master Track.	-

Multiple Modifiers can be used though you should not use more than one of the Mix Modifiers. For example, to store all of the Devices on Tracks 1-3 as well as settings stored by MIX+:
1-3/SNAP DEVALL MIX+

Upon playing an X-Clip with a Snap Action, the related settings will be stored in the X-Clip's name along with your Identifier. An X-Clip that has stored a Snap is referred to as an **X-Snap.** To recall the Snapped settings, replay the X-Snap.

The Snap Action offers some special functionality when used with the Snap Track. Also, you can change the default behavior of the Snap Action in your User Settings.

GENERAL NOTES:
- *The settings for each Track are stored by the name of the Track. This allows you to add/remove/re-arrange Tracks without affecting your ability to recall X-Snaps you've stored. However, if multiple Tracks have the same name, only the first of these will apply in X-Snaps.*

- *After storing an X-Snap, you should not change any of the data in the X-Snap's name. You can change the Identifier if you like though.*

- *It may take a few moments to entirely recall X-Snaps of large numbers of Tracks and/or Devices.*

- *If you're attempting to take a Snap that would exceed the Snapshot Parameter Limit specified in your User Settings, you will receive an error message.*

DEVICE NOTES:
Device *= A Device that is not nested within a Rack.*
Sub-Device *= A Device that is nested within a Rack.*

- *The Device numbering mentioned in the Snap Action chart only applies to Devices (not Sub-Devices) and is based on the position of the Device on the Track.*

- *The settings for each Device on the Track are stored by the name of the Device. This allows you to add/remove/re-arrange Devices on the Track without affecting your ability to recall X-Snaps you've stored. However, if multiple Devices on the Track have the same name, only the first of these will apply in X-Snaps.*

- *If the Device is a Rack that includes Sub-Devices, the settings for each Sub-Device of the Rack will be stored by the position of the Sub-Device within the Rack. This allows you to have multiple Sub-Devices with the same name within a Rack. However, if you change the positions of Sub-Devices within the Rack, this will affect your ability to recall X-Snaps you've stored.*

- *If the Device is a Rack that includes Sub-Devices, the Volume, Pan and Mute settings for each Chain in the Rack will be stored (unless the Rack is a MIDI Effects Rack). If the Device is a Drum Rack, the Sends settings for each Chain in the Drum Rack will be stored as well.*

- *X-Snaps store all of the exposed parameters of a Device. If the number of parameters exposed for the Device changes (which can occur with some of Live's native Devices when certain parts of the Device are turned on/off), this will affect your ability to recall X-Snaps you've stored prior to the number of parameters changing.*

SNAP TRACK

By default, X-Snaps stored using the Snap Action will be recalled immediately, which will cause the values of Snapped parameters to jump from their current values to the values stored in the X-Snap.

You can alternatively add a Track named `CLYPHX SNAP` (aka Snap Track) to your set. The Snap Track will function as a typical Track with two exceptions. X-Snaps recalled from the Snap Track will use Smoothing, which will cause the values of Snapped parameters to gradually adapt from their current values to the values stored in the X-Snap. Also, the Snap Track will not be included in Snaps.

You can change the speed at which the Smoothing occurs by adding a value (in the range of 0 – 500) enclosed in brackets to the Snap Track's name. This value is in hundreds of milliseconds. A value of 0 will turn Smoothing off. For example:
`CLYPHX SNAP [20]`

The Smoothing can alternatively be synced to Live's playback. To accomplish this, place an `S` before the Smoothing speed and specify the number of Beats (in the range of 0 – 125) that the Smoothing should occur over. For example:
`CLYPHX SNAP [S16]`

Each X-Snap on the Snap Track can also use its own Smoothing speed. To accomplish this, specify the speed at the end of the X-Snap's identifier proceeded by `SP:`. For example:
`[ID SP:50]`
`[ID SP:S16]`

You can also add a Rack named CLYPHX SNAP (aka Snap Rack) to the Snap Track (this Rack should not be nested within another Rack). This will allow you to send X-Snaps to the Snap Rack so that you can use the Snap Rack's first Macro to Morph between the current values of Snapped parameters and the values stored in the X-Snap.

When the Snap Rack is in place and turned on, upon playing an X-Snap, the Identifier of the X-Snap will be added to the name of the Snap Rack and the first Macro of the Snap Rack will be reset. Now, you can use the first Macro to Morph between the current values of the Snapped parameters (current values are assessed at the time the X-Snap is played) and the values stored in the X-Snap.

You can disable the Snap Rack by turning it off. When it is off, X-Snaps will not be sent to the Snap Rack and will instead just be recalled with Smoothing. Also, if an X-Snap is played while the Snap Rack is off, any X-Snap data stored in the Snap Rack will be removed.

NOTES:
- *Smoothing and Morphing do not apply to Mute, Solo and Crossfade assignments or the playing status of Tracks. The values for these parameters will be recalled as soon as the X-Snap is played.*

- *Smoothing does not apply to quantized parameters such as a filter type chooser. The values for these parameters will be recalled as soon as the X-Snap is played.*

- *You should only have one Track named ClyphX Snap in your set. If you have more than one, only one of them can be used at a time.*

- *You should only have one Rack named ClyphX Snap on the Snap Track. If you have more than one, only the first of these can be used.*

ACTION INFO

Track-based Actions

Track-based Actions can be applied to individual Tracks or to ranges of Tracks. If no Track is specified, Track-based Actions will be applied to either the selected Track (in the case of X-Cues and X-Controls) or to the Track the X-Clip resides on.

To operate on a different Track, specify the Track followed by a slash (/) before the Action name. Specify the Track number (`1/VOL >`), Return letter (`A/VOL >`), MST for Master (`MST/VOL >`) or SEL for the Selected Track (`SEL/VOL >`). You can alternatively specify the Track name enclosed in quotes ("`My Track`"`/VOL >`). You can also use the previous (`<`) and next (`>`) keywords to operate on Tracks prior to or after the Selected Track (`</MUTE, >/PLAY, >5/VOL >`).

You can also apply Actions to a range of Tracks (`5-10/SEND A >` or `1-B/VOL RND` or `10-MST/PAN RESET` or `SEL-`"`My Track`"`/MUTE` or `>->10/PAN >`) or to all Tracks (`ALL/PLAY`). When specifying a range, there should be no space before or after the hyphen.

*NOTE: When specifying Track names, the name you specify is **not** case-sensitive. Also, the name you specify cannot include special characters (like umlauts) or any of following characters: semi-colon (`;`), comma (`,`), percent sign (`%`), equals sign (`=`), slash (`/`)*

If multiple Tracks have the same name, Actions will be applied to the first of these.

Continuous Parameters

All of the Continuous Parameters offer several control options via keywords.

KEYWORD	DESCRIPTION	EXAMPLES
x	**x** is the parameter value to set (in the range of 0 – 127).	`DEV1 CS 100`
< or **>**	Dec/Inc the parameter value by increment of 1.	`VOL <, PAN >`
<x or **>x**	Dec/Inc the parameter value by increment of **x**.	`PAN <5, DEV1 B2 P1 >10`
RESET	Reset the parameter value to its default value.	`DEV1 P1 RESET`
RND	Randomize the parameter value. The value produced will be in the range of 0 – 127 and will then be scaled to match the range of the given parameter.	`SEND A RND`
RNDx-y	Randomize the parameter value. The value produced will be in the range of **x-y** (where both **x** and **y** are in the range of 0 – 127) and will then be scaled to match the range of the given parameter.	`VOL RND50-60, DEV1 P5 RND5-10`

General Action Notes

- For all of the Actions related to Clip Loops and the Arrangement Loop, the loop can't be moved/set to a length/position greater than the Clip/Song length or less than Clip/Song position 1.1.1.

- For all of the Actions related to controlling Devices, if the parameter you're looking to control is mapped to a Macro, the parameter cannot be controlled. You should control the Macro instead.

- For all of the Actions related to Devices, if the Device you're looking to control is not one of Live's Devices, the Actions will apply only to the configured parameters of the Device.

- For all of the Actions that involve specifying a name (such as LOC x, IN x, NAME x, etc), the name cannot include special characters (like umlauts) or any of following characters: semi-colon (`;`), comma (`,`), percent sign (`%`), equals sign (`=`)

- For all of the Actions that involve loading or hotswapping items from the Browser, the Browser does not need to be open.

- The Track Select and navigation-related Actions may not work correctly if Select on Launch is turned on in your Live Preferences.

- Each Action performed by an X-Trigger is considered undoable in Live. For that reason, if you have lots of LSEQ X-Clips going on in your set, this could make your undo history unreliable.

- An X-Clip's Action List will not be performed while the X-Clip is recording.

- If you leave an X-Clip playing (the Clip's play indicator is lit) upon saving a set, the next time the set is loaded, the Action List of the X-Clip will be triggered.

- Certain changes to a Clip (such as adding notes to it) will cause the Clip to be internally retriggered. In the case of X-Clips, this would result in the X-Clip's Action List being retriggered as well.

- If a Clip Action is triggered from the same Clip that it's applied to, this could cause the Action to be triggered repeatedly. In general, it's recommended that you do not trigger Clip Actions from the same Clip that the Actions will be applied to.

- If an X-Trigger contains Actions that relate to both Arrangement View and Session View, the Arrangement View-related Actions should typically be placed before the Session View-related Actions.

- The Actions in an Action List are processed nearly simultaneously. For this reason, Actions (such as PLAY) that apply to selected items (such as a Track) will apply to the item selected at the time the Action List was processed as opposed to items that become selected as part of the same Action List. For example, with an Action List such as RIGHT ; PLAY, the PLAY Action will apply to the Track that was selected prior to the RIGHT Action being processed.

- Note Repeat covered in Global Actions and Control Surface Actions will produce notes at a consistent velocity. If the controller you're using it with is able to send polyphonic aftertouch, this will allow you to vary the velocity of the produced notes.

USER SETTINGS

ClyphX provides a variety of optional settings. All of these are contained in *UserSettings.txt*, which you'll find inside the ClyphX folder. The file itself includes instructions on how to modify it and descriptions of all the settings options.

The first set of settings (**[SNAPSHOT SETTINGS]**) relate to the behavior of the Snap Action.

The second set of settings (**[EXTRA PREFS])** relate to general Live options (these are inherited from ExtraPrefs). These also include an option to specify an Action List to perform each time a set is loaded.

The third set of settings (**[CSLINKER])** allow for linking the grid selectors of two Control Surfaces.

The fourth set of settings (**[USER CONTROLS])** relate to your X-Control settings.

The final set of settings (**[USER VARIABLES]**) relate to User Variables.

ADVANCED SUBJECTS
User Variables

Defining/Re-Assigning Variables:
You can use Variables in your Action Lists. These Variables can be used for storing values (like `100`), single Actions (like `OVER OFF`) or portions of Action Names (like `CLIP`). There are two ways to define Variables.

You can define Variables in your User Settings. Variables you define here will always be available to any Action List in any set. Here are a couple of examples of Variable definitions:
```
my_var1 = 54
my_var2 = SHOWCLIP
```

You can also define Variables or assign new values to Variables that you've defined in your User Settings with X-Clips/X-Cues. The syntax for doing this is exactly as noted above. For example, to assign a new value to `my_var1`:
```
my_var1 = 10
```

Any Variable definitions/re-assignments made via X-Clips/X-Cues are temporary (only accessible to the currently loaded set) and are reset back to the definitions in your User Settings upon set load.

There are a few limitations in terms of Variable values. In particular, Variable values should **not**:

- Include special characters (like umlauts) or any of the following characters:
  semi-colon (`;`), comma (`,`), equals sign (`=`), dollar sign (`$`)

- Include the percent sign (`%`) unless it is used to refer to a Variable.

- Include parenthesis (`(` and `)`) unless they are used to specify an Expression.

- Include a slash (`/`) unless it is used to specify division in an Expression.

*NOTE: Variable names should not contain characters other than letters, numbers and underscores. Also, Variable names and their values are **not** case-sensitive.*

Defining/Re-Assigning Variables Programmatically:
If you need to define/re-assign a bunch of variables that have similar names (like clip1, clip2, etc) and that have sequential values (like 1, 2, etc), there is a special Action that you can use to simplify the process. The Action's name is `ASN` and it takes 3 arguments; the base name of the variables, the value of the first variable and the number of variables to create. For example:
```
ASN CLIP 1 10
```

This will create 10 variables named clip1, clip2, etc. and their values will be 1, 2, etc. As another example:
```
ASN TRACK 10 5
```

This will create 5 variables named track1, track2, etc and their values will be 10, 11, etc.

This Action can be triggered from the Startup Action (defined in User Settings) so that the created variables will always be accessible.

Using Variables:

Once Variables have been defined, you can use them in any Action List. Any time you refer to a Variable, you will need to enclose the Variable in percent signs (%). Here are a couple of examples:
```
%my_var1%/MUTE
v=10 ; 1/VOL %v%
```

Variables and Expressions:

You can use Expressions in Variable definitions/re-assignments. This allows Variables to be assigned to the result of a mathematical equation or to be assigned to the result of combining Variables with other Variables and/or strings (words). To assign a Variable to the result of an Expression, the Expression needs to be enclosed in parentheses. For example:
```
v=(%v% + 1) ; %v%/MUTE
```

In this example, the Variable (v) was not initialized and so it will have an initial value of 0. The Expression (%v% + 1) would evaluate to 0+1 and so the result would be 1. The second time this assignment is triggered, the Expression would evaluate to 1+1 and the result would be 2.

When using Expressions, there should be nothing outside of the outermost set of parentheses. For example, this wouldn't work:
```
v=(%v% + 1) * 10
```

You should use an additional set of parentheses in cases like this. For example:
```
v=((%v% + 1) * 10)
```

For the most part, you can use any Expression that is valid in the Python programming language. However, it is not possible to use the modulo operator because that is specified by the percent sign, which has a special purpose in ClyphX.

Also, if you've got a Variable that is holding the value of a Track's name (like v="My Track") and you use this in an Expression, the outer quotes will be stripped off. For example:
```
x="My " ; y="Track" ; v=(%x% + %y%) ; %v%/MUTE
```

The result of this expression would just be My Track. So it is recommended that you do not use quotes in Variables that you'll be using in Expressions. Instead, simply add quotes around the Variable when referring to it like so:
```
x=My ; y=Track ; v=(%x% + ' ' + %y%) ; "%v%"/MUTE
```

Lastly, in most cases, it is recommended that you don't use mixed variable types in an Expression. For example, if you wanted to combine a string (like Track) with a number (like 1), this wouldn't work:
```
x=Track ; y=1 ; v=(%x%  + ' ' + %y%)
```

You can get around this by specifying that each variable is a string, like so:
```
x=Track ; y=1 ; v=('%x% ' + '%y%')
```

User Actions

In addition to all of the Actions you can access with ClyphX, you can also create your own Actions. The ClyphX folder includes a file named *ClyphXUserActions.py* where you can create your Actions. This file includes instructions and examples. Although it is possible to edit/view this file with any text editor, it is recommended that you use an IDE. We would recommend Wing: http://wingware.com/

TROUBLESHOOTING

If you're not able to perform any Action with ClyphX, check that you've placed ClyphX in the correct directory (it belongs in Live's MIDI Remote Scripts directory, not Live's User Remote Scripts directory). Also, check that you've got ClyphX selected as a Control Surface.

If you're trying to access Actions via X-Clips or X-Cues, check that you've listed an identifier at the beginning of the X-Clip or X-Cue name. If you're trying to access Actions via X-Controls, check that you've defined the X-Controls correctly in your User Settings and that you've selected the controller as the Input for ClyphX.

If you need further help, please make a post in the related ClyphX thread on our forum:
http://beatwise.proboards.com/index.cgi?board=clyphx

Please provide as many details as possible and also please post/email your *Log.txt* file (you can email Stray through the forum). To get to your *Log.txt* file:

On **OS X**, you'll find *Log.txt* in (if you're using OS X Lion or beyond and need help locating your Library folder, please see this article: http://osxdaily.com/2011/07/22/access-user-library-folder-in-os-x-lion/):
Users\(your name)\Library\Preferences\Ableton\Live x.x.x

On **Windows**, you'll need to ensure Hidden Files/Folders are shown as *Log.txt* is in a hidden folder. You'll find *Log.txt* either in:
Documents and Settings\(your name)\Application Data\Ableton\Live x.x.x\Preferences
Or:
Users\(your name)\AppData\Roaming\Ableton\Live x.x.x\Preferences

If you believe that you'd found a bug in ClyphX, we would appreciate you reporting this along with as much detail as possible on it. Also, we would appreciate you creating a Debugging log. To do that, create an X-Clip with the DEBUG action and play this X-Clip. The X-Clip's name will indicate that Debugging has been activated. Then re-create the bug. The Debugging log will be written to Live's *Log.txt* file, which you can locate as described above. Please post/email this file along with your bug report.