

Studio One 4.0

Chord Track Explained

Unofficial Guide to Using the Chord Track



Jeff Pettit
5/24/2018
Version 1.0

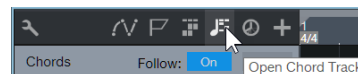
Unofficial Guide to Using the Chord Track

Table of Contents

Introducing Studio One Chord Track.....	2
Getting Started.....	3
Detecting/Setting the Key Signature	3
The Chord Selector.....	3
Entering Chords into the Chord Track.....	3
Entering Chords with Instrument Input	4
Chord Detection	4
Creating the Chord Track from an Instrument Track.....	4
Drag Detecting Instrument Chords	4
Drag Detecting from Multiple Tracks (Orchestration)	4
Creating the Chord Track from an Audio Track	5
Drag Detecting Audio Chords.....	5
Editing Chords on the Chord Track	5
Instrument Chord Follow Parameters	6
Audio Chord Follow Parameters	6
Auditioning Different Chords with the Chord Track	7
Prototyping Chord Progressions with Placeholder Chord Segments.....	7
Prototyping Chord Progressions with Melodic Patterns	8
Special Considerations When Adding Loops to An Existing Song.....	8
Preparing Loops to Work with Your Progression.....	8
Instrument Chords Must Be Shorter Than the Chord Segment.....	8
"Universal Follow" for Quick Audio Chord Auditions	8
Exporting Chords/Key to a Notion Lead Sheet	9
Transposing.....	9
Chord/Bass Notes	10
Identify which tracks are following the Chord Track	10
Quantizing or Snapping the Chord Track	10

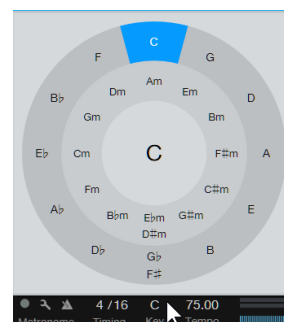
Getting Started

Click the Chord Track icon to open the Chord Track.



Detecting/Setting the Key Signature

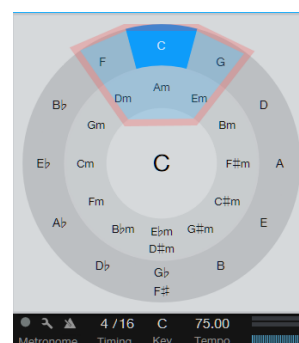
Detecting the key is important to getting the proper chord name as well as enabling it to be sent to Notion. Detecting the key can be done with Instrument Tracks or by manually entering it by clicking the Key field in the Navigator. This command can be found in the Instrument Parts context menu on and Instrument Part.



The Chord Selector

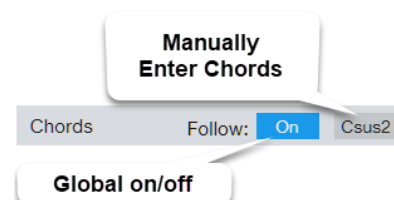
The Chord Selector is a convenient way to enter chords, types, intervals, and bass notes into the Chord Track.

Power Tip: In addition, the Circle of Fifths allows you to quickly see other chords in the key which are found clockwise/counter-clockwise to the root as well as the three minor chords for the key. (outlined for example)



Entering Chords into the Chord Track

1. Click the Chord Track icon to open the Chord Track.
2. You can open the Chord Selector by:
 - Double-click the Chord Segment in the Chord Track and the **Chord Selector** will open.
 - Open the **Chord Selector** from the button on the bottom of the Chord Track Inspector.
3. Entering Chords:
 - Select a chord in the Chord Selector.
 - Click the keys on the Chord Selector keyboard.
 - Enter a chord manually into the Chord Track header.
 - Enter it via a MIDI keyboard.
 - Enter the chord in the Chord Inspector



Note: A Chord Track chord segment has to be selected to enable the Chord Selector.

Entering Chords with Instrument Input

Enabling the Instrument Input on the Chord Selector to enter chords via a MIDI keyboard and audition them through your selected Instrument Track. The Chord Selector will at the same time detect up to a four-note chord you are playing and update the Chord Track automatically.

Power Tip: Existing Instrument Tracks or Audio Tracks that are in Chord Follow mode will actually shift to the chord you enter via the Instrument Input. This can be useful for real-time auditioning of a chord change for your song.

Chord Detection

Only three and four note chords are detected. Melody lines or intervals are not detected but will shift depending on the follow mode and if it is an Instrument Track or Audio Track.

Instruments

The resolution of the Instrument chord detection is based on the time signature of the song and the time base of the track. Set the source track's time base temporarily to Seconds to allow for real-time interpretation of chords played not to the grid. If the chord changes in less than a quarter note, set the denominator of the time signature temporarily to a high number like 16 or 32 before dragging the track into Chord Track for more accurate chord segment recognition.

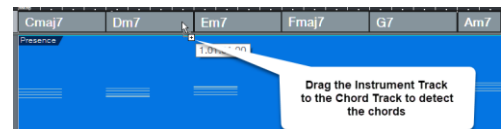
Audio

Audio chords are detected to a 1/8 resolution minimum. A chord played on a division of 1/8 will detect accurately to its starting point. If a chord is played 1/16 ahead or behind that, the chord start will be skewed +/- 1/8 and will need to be manually adjusted or you will hear a shift in the middle of the next chords start or the last chords tail.

Creating the Chord Track from an Instrument Track

Drag Detecting Instrument Chords

You can detect the chords of an existing track by dragging the Instrument Track onto the Chord Track. You can also run the Detect Chord command from the context menu.



It is always a good idea to step through the song progression to confirm that the detection is correct. If the detection is not correct, you have to enter the correct chord using the Chord Selector tool or correct the time position transition.

Drag Detecting from Multiple Tracks (Orchestration)

You can select multiple Instrument Tracks each with their portion of the chord to be dropped onto the Chord Track. This is very useful for orchestrated music where multiple instruments make up the overall chord. It also works well with the Presonus Symphonic Orchestration add-on.

Creating the Chord Track from an Audio Track

Drag Detecting Audio Chords

You can detect the chords of an existing Audio Track by dragging the Audio Track onto the Chord Track. This will both detect the chord on the track and export them to the Chord Track. You can also run the Detect Chord command from the context menu.

This is different than using an Instrument Track (where you can see the chord's notes in the track to help verify). With audio, you have to know the chord in advance or verify by ear using an instrument to verify that the detection was correct.

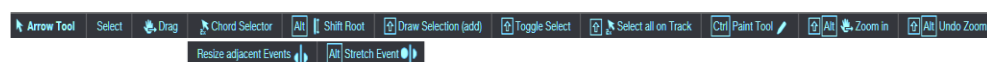
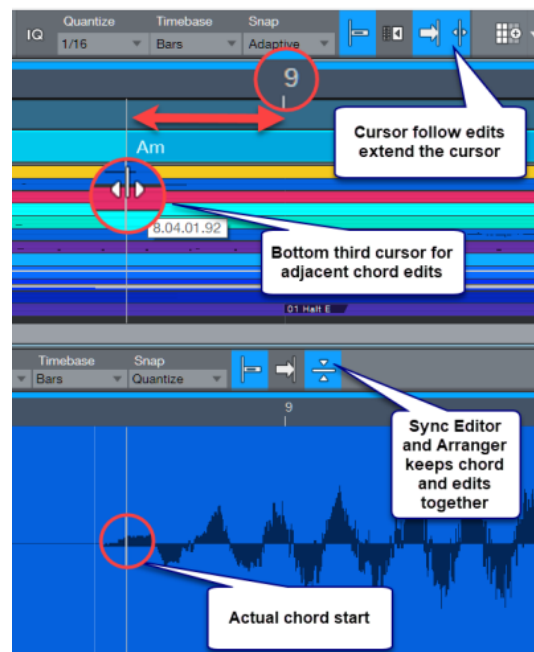
This is due to the following:

- For Instrument Tracks, we know what the notes are. For audio, we need to detect them first.
- Detecting chords from audio is significantly more difficult than detecting chords from “MIDI” (note events). The audio doesn't tell us where the notes are until we run the detection.
- In other words, having audio follow the Chord Track is exactly the same as having audio follow the Tempo Track. You need two parts of information: 1) The original value (tempo or chord) and 2) The target value (tempo or chord). Otherwise, it won't work and can lead to wrong results. The “Universal” Follow mode is an exception. See below.

Editing Chords on the Chord Track

When using drag detection methods, the chords should be verified that they are correct and are aligned with the original chord changes. This will become audibly obvious with Audio Tracks as a portmanteau (quick pitch sound) may be heard if the chord segment and actual chord are out of alignment. The chord segments can be dragged, moved, stretched, or adjacent chords adjusted for sliding proper alignment to the original chords. Use the **Info View toolbar (?) icon** to learn all the keystrokes that can be used to edit the Chord Track.

Power Tip: Cursor movement will follow the Snap *follows edits* option and will extend the cursor line down into the Track and Editor view to allow for precise editing of chord stops and starts. It is also a good idea to use the new **Synchronize Editor to Arranger** button and have the Editor window open while doing precise adjustments.



Instrument Chord Follow Parameters

Chord Follow parameters do not create notes that are not there in the source. In other words, they will not turn a three-note chord C into a four-note chord Cmaj7. So, you can't add intervals or different bass notes to an original three-note chord. They can shift chord roots and some types of three-note chords and convert four-note chords into three-note chords.

Each track's Inspector has a new Chord Follow parameter which defines how a track should follow the Chord Track. Each Instrument Track must be set to one of these modes to follow the Chord Track progression. It's always worth trying and comparing which mode works best in a given arrangement. Often it will be a creative decision. All modes may lead to musically interesting results.

- **Narrow:** Each note of the source chord is mapped to the nearest note in the target chord. Try to avoid mapping multiple source notes to the same target note if possible.
- **Parallel:** At first, all notes are shifted by the offset between the source and target root note. Then each note of the source chord is adjusted to match the target chord (e.g. the 3rd is shifted one semitone down when going from a major to a minor chord). Example: C -> Am: all notes are shifted three semitones down, then the E (now C#) is shifted one more semitone down to C.
- **Bass:** Same as the Parallel option but with a special rule for the bass note: the source chord's bass note (or root if it has no bass note) is mapped to the target bass note (or root).

Experiment with chorded tracks depending on the source chord. One of the two approaches will sound better.

Power Tip: Before experimenting with changes to the progression in a Chord Track, solo each original track set to Chord Follow mode and try the different modes to get the best "un-changed progression" sound first. This will lead to the best harmonic shift when prototyping progression or chord changes with the Chord Track.

Audio Chord Follow Parameters

Activate "Chords Follow" in the Audio Track inspector and the Audio Track will follow the Chord Track.

With most follow modes, the Audio Track must first have its chords detected first. The exception is Universal mode. There are four Follow modes to choose from:

- **Narrow:** Each note of the source chord is mapped to the nearest note in the target chord (trying to avoid mapping multiple source notes to the same target note if possible).
- **Parallel:** At first, all notes are shifted by the offset between the source and target root note. Then each note of the source chord is adjusted to match the target chord (e.g. the 3rd is shifted one semitone down when going from a major to a minor chord). Example: C -> Am: all notes are shifted three semitones down, then the E (now C#) is shifted one more semitone down to C.
- **Bass:** Same as Parallel but with a special rule for the bass note: the source chord's bass note (or root if it has no bass note) is mapped to the target bass note (or root).
- **Scale:** Scales are built from the source and target chord and each note from the source scale is mapped to the nearest note of the target scale. A major scale is used for a major chord and a minor scale is used for a minor chord.

- **Universal:** Each note is mapped to the nearest possible note of the target chord. This affects all 12 pitches of the octave; not only notes from a source chord as in "Narrow". That is why this mode does not need a source chord.

Audio Tracks have an additional parameter called "Tune Mode" which improves the playback quality for specific types of instruments. Depending on the Preset, playback is optimized for sharp transients vs. soft attacks /decay and polyphonic vs. monophonic content. Experiment for best results. Prototyping Your Song with the Chord Track

The Chord Track allows you to start working out a change in the progression, a new chord type or interval, adding passing chords, or modulation of a song.

Note: The Chord Follow Modes that occur with Instruments Tracks can be acceptable for a final track sound quality. However, the audio quality of the built-in audio shift may not be especially if it is a large shift. In those cases, it is recommended to re-record the track with the new chords thus the term *prototyping*.

Auditioning Different Chords with the Chord Track

Prototyping Chord Progressions with Placeholder Chord Segments

You can record or step edit placeholder 3-4 note chords that can be auditioned in a loop to play with the progression.

1. Create your placeholder chord progression by only entering/playing the rhythm pattern that you want by just playing the same chord for each potential chord in the progression (i.e. C or Cmaj7).
2. Add placeholder chord segments for each chord change.
3. Set the track to Chord Follow in Parallel mode.
4. Play the progression and play alternative chords, types, or intervals with the Chord Selector to load in different chords.
5. Change the track's Follow option to Narrow and audition those harmonic changes.



NOTE: This will work with all the Tracks that are set to Follow so you can audition several Instrument Tracks with the chord progression using this same procedure.

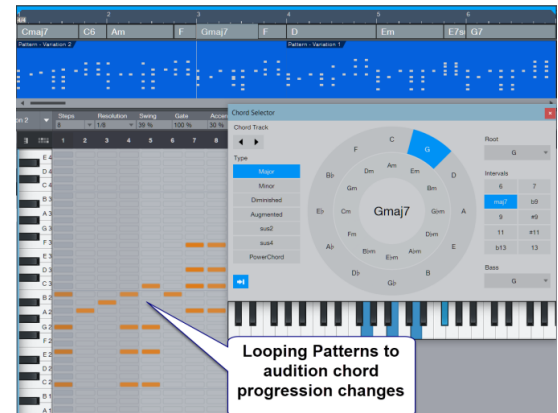
NOTE: Remember that the guide track will shift the chord to the new harmonic spelling so make sure the chord segment is at least the length as you intended chord change patterns.

Prototyping Chord Progressions with Melodic Patterns

You can also use the new Melodic Patterns to create repetitive rhythms and audition different chords over the patterns.

1. Create your patterns and drag out to 8-16 measures.
2. Set the track to Follow in Parallel or Narrow mode.
3. Loop the pattern(s) and audition alternative chords, types, or intervals with the Chord Selector.

Power Tip: Patterns can be stretched out for multiple repetitions which can then be dragged into the Chord Track. Each repetition can have different chords in the progression.



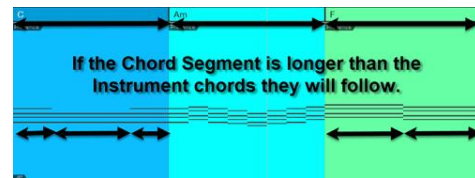
Special Considerations When Adding Loops to An Existing Song

Preparing Loops to Work with Your Progression

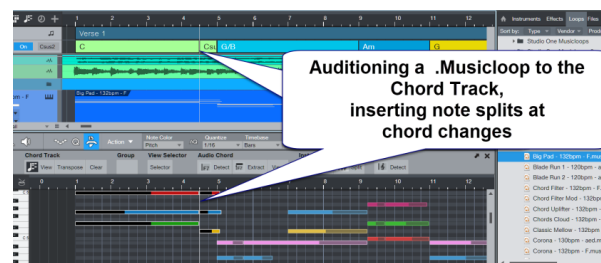
To audition Musicloops from the Browser, drag them into the Arrangement and set Chord Follow to a mode.

Instrument Chords Must Be Shorter Than the Chord Segment

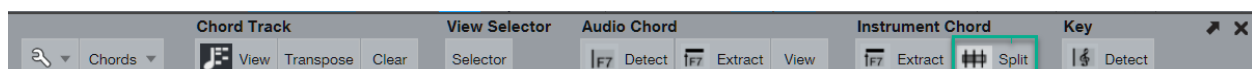
Instrument Track Chords will follow properly when Chord Segments are longer than the underlying chord lengths.



If the **Musicloop chords are longer than the chords in the Chord Track, you will have to split the notes** of the chord to align with the Chord Track for proper chord following.



Power Tip: Instrument track chord splitting can be done with a custom Chord Macro page "Split Chord" commands. (Available for download shown here.)



"Universal Follow" for Quick Audio Chord Auditions

Use the **Universal Follow** mode to audition audio chords. They will follow changes in the Chord Track even though the source chords have not been detected yet or may have sustained past the Chord Track change. This may create a quick portamento sliding sound, which might be OK. If not, you will have to split the sustained audio event to align to the Chord Track.

Exporting Chords/Key to a Notion Lead Sheet

If you want to create a lead sheet for musicians or singer to use while recording tracks for your song, you can select a suitable melody track and export the song to Notion as a lead sheet including the chords in the Chord Track.

1. Because notation is a language designed around the idea of a musical grid called the "staff", the Chord Track and Instrument Tracks should **always be quantized to the grid prior to exporting to Notion**. If you are working with a live performance, this will require tempo mapping the grid to the performance first in order to get clean notation.
2. After aligning at a minimum your Chord Track and optionally any other Instrument Track you want for notation to the grid, select **Send to Notion** from the Song menu and follow the prompt for creating a lead sheet.

The screenshot shows the Studio One 4.0 interface with the Chord Track visible at the top. Below it, a Notion lead sheet is displayed, titled "MY STUDIO ONE SONG IN NOTION". The lead sheet shows musical notation for a melody track and corresponding chords from the Chord Track, including A7, F, D9#9/F, G, and D9#9/A.

Transposing

The advantages of using Chord Track to transpose (shift) the key of your song varies depending on what kind of tracks you have and when you make the change. Instrument Tracks shift at the Instrument Part level so there is no side effect of the shift and the shift is nondestructive. Audio Tracks are shifted using built-in polyphonic algorithms. **The advantage here over previous pitch shifting is that you can try different Chord Follow modes and tuning to optimize the shift for each track.**

1. Select all chords in the Chord Track via the context menu.
2. Make sure all tracks are in the appropriate Chord Follow mode.
3. Open Transpose via the context menu.
4. Transpose up or down in semitones.
5. Change the key of your song appropriately if you are going to "Send to Notion" or you may have wrong chord spellings.
6. Detecting/Setting the key to your Song.

The screenshot shows the Studio One 4.0 interface with the Chord Track transposed to D major. The chords are now D, Bm, G, E, A, A7, F#m, Em, G, A, E, and A. Below the Chord Track, a Notion lead sheet is displayed, titled "TRANSPPOSED TO D". The lead sheet shows musical notation for a melody track and corresponding chords from the Chord Track, including D, Bm, G, E, A, A7, F#m, and E9#9/A.

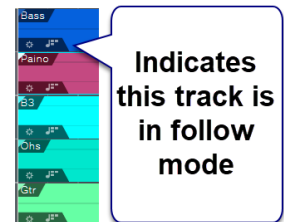
Chord/Bass Notes

Slash chords with a different bass note than the chord's root can also be loaded into the Chord Track. Four note source chords will follow this properly.



Identify which tracks are following the Chord Track

The Chord Track icon will appear on any track that is in a Chord Follow mode.



Quantizing or Snapping the Chord Track

To Quantize chord segments, select the chords you want to quantize, and navigate to Event/Quantize/Quantize on Track.