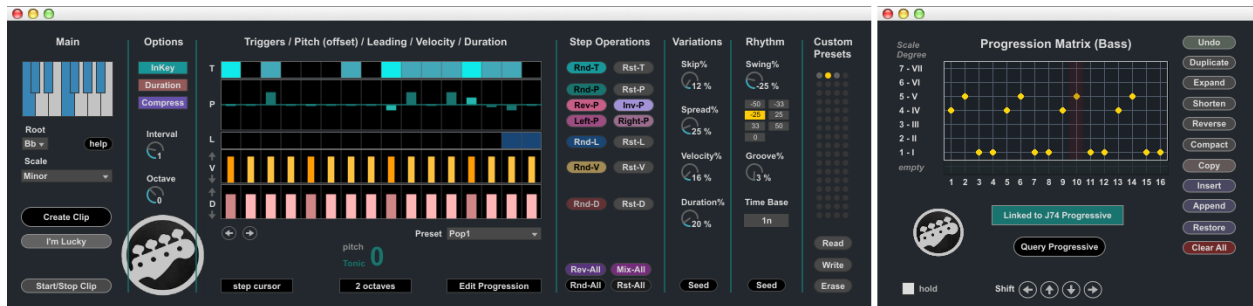


# J74 BassLine



**A tool set for BassLine Progressions**

## About J74 BassLine

J74 BassLine is a *Max for Live* MIDI plug-in specialized in *bass line progressions*.

The key idea behind this device is to have a powerful tool which combines both rhythm and harmony together.

In terms of rhythm, which is key for bass parts, J74 BassLine makes use of performance tricks such as *groove*, *swing*, *legato*, *glide*, *accent* and *humanize dynamics*. Programming is done through a simple user interface, based on concepts well known to electronic musicians, such as step sequencing, effect knobs and probabilistic variations.

From the harmony point of view the tool works having knowledge of scales, chords and progressions, and combines these with the rhythmic pattern creation: the generated bass-lines get *transparently* and *automatically adapted* to the progression, on a chord by chord, tonic by tonic basis, remaining in-key to the selected scale (if you wish it to).

This works at its best when *J74 BassLine is combined with J74 Progressive* (another J74 tool set, available at <http://fabriziopoce.com/progressive.html>), in what is called "Linked Mode".

Using the two tools together you have an integrated environment for chord progressions programming *and* for bass-line production at the same time. In "Linked Mode" the progressions created in J74 Progressive, as well as the selected scale information, are *automatically synchronized* to J74 BassLine. J74 BassLine will consequently produce bass-lines which *follow* the scale and chords of the progression, with harmonically consistent results.

Harmonic integration goes further than note adaptation. The tool uses the concept of intervals (thirds, fifths, octaves, etc) and allows you to add *leading notes* in the bass-line too (notes which lead to the next chord), giving your progression a driving musical feel which is peculiar to bass parts.

J74 BassLine can also work in three standalone modes. It can be used as a standalone bass-line editor (with its own internally programmed progression), as a real-time bass sequencer (still using its internally defined progression, but generating notes on the fly, without clips) or even as a slave device following chords from another track (extracting the tonic to play the bass-line onto, in this case also generating notes on the fly).

### How to Install the tool

J74 BassLine requires a Max for Live license for Ableton Live 9 to run (older versions of Live are *not* supported). Installation is actually quite easy: just *unzip* the download pack, copy the files to your computer hard drive and you are ready to go. To start the tool *drop* the "J74 BassLine.amxd" plug-in device on *any MIDI track* in the Ableton Live liveset.

Note: BassLine operates *on the Session View only* (meaning that only MIDI Clips in the Session View can be created). This limitation is not very restrictive: it is very easy to make a copy of a MIDI clip from the Session view *into* the Arrangement View by just drag it over or by global recording and clip triggering.

*Let's now go through the user interface of the tool, explaining what each command and function does.*

## Start-up and Modes of Operation

To open the tool, and define the mode of operation, use the device controls on the little "docked" user interface:

- The **[Bass-Line Editor]** button opens the BassLine Editor, as shown below and explained next.
- The **[Mode]** menu and the **[Linked Progressive]** switch define the mode of operation (see further below)
- The **[Help]** button opens the help page
- The **[Float/On Top]** setting defines how the separate windows float (always on top or not).



**Note:** If you click anyway on the BassLine docked device, the separate windows will be revealed in front.

The BassLine device has several modes of operation as defined by the **[Mode]** and **[Linked Progressive]** controls:

### 1) Linked - Editor Mode: **[Mode]** = "Editor Mode" & **[Linked Progressive]** = ON

J74 BassLine operates as an *editor* and *synchronizes to J74 Progressive* (if present). Any change made in J74 Progressive to the scale settings (root and scale) and to the progression are automatically synchronized. If you press [Start/Stop] on any of the tools, the action is synchronized.

### 2) Linked - Live Standalone Sequencer Mode: **[Mode]** = "Live Standalone" & **[Linked Progressive]** = ON

J74 BassLine works as a *standalone real time sequencer, generating MIDI notes in output* and *synchronizes to J74 Progressive* (if present). Any MIDI note in input to the device will be silently dropped in this mode of operation. All features except the Leading Notes are supported in this mode.

### 3) Unlinked - Editor Mode: **[Mode]** = "Editor Mode" & **[Linked Progressive]** = OFF

J74 BassLine works as a *standalone editor, using its own scale and progression information, and does not check if J74 Progressive is present in the liveset*. All features and techniques on J74 BassLine are further available for use.

### 4) Unlinked - Live Standalone Sequencer Mode: **[Mode]** = "Live Standalone" & **[Linked Progressive]** = OFF

J74 BassLine works as a *standalone real time sequencer, generating MIDI notes in output, using its own Scale/Root and Progression Matrix settings*. No synchronization is done with J74 Progressive. In this mode any MIDI note in input to the device will be silently dropped and all features except the Leading Notes are supported.

### 5) Live Chords Sequencer Mode: **[Mode]** = "Live Chords"

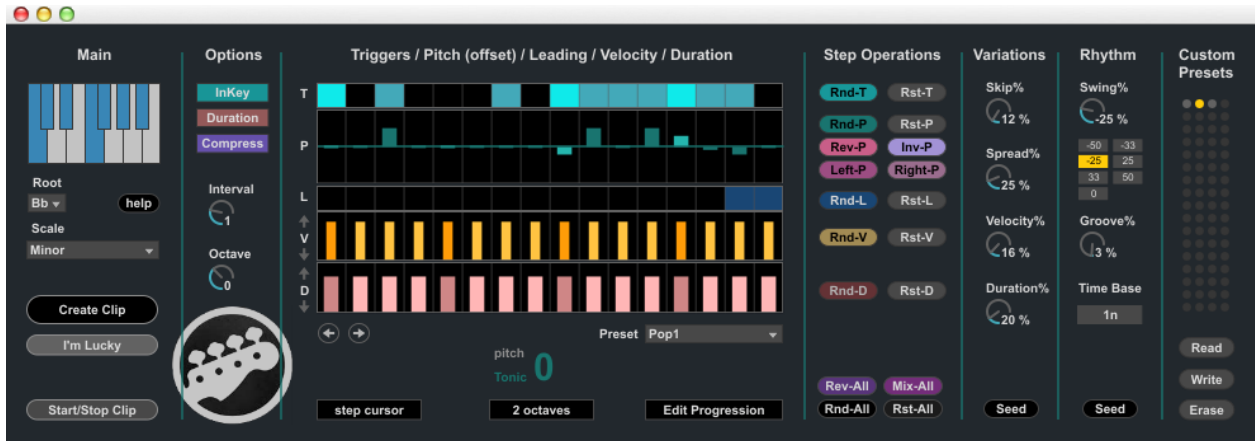
J74 BassLine works as a *real time sequencer and follows the chords detected by the "J74 ChordDetect.amxd" companion device* (also included in the pack). Put the "J74 ChordDetect.amxd" on the track where chords are received and J74 BassLine will adapt the bass sequence to the chord tonic, playing in tune.

More information regarding the modes of operation will be provided further through this user manual.

## The BassLine Editor

The BassLine Editor is the place for programming your bass-lines. The device works using a combination of rhythmic and harmonic techniques and generates extremely realistic results, with just a few clicks. When working as an editor, results are always provided in the form of *standard MIDI clips in the Session View* (clips are created on the track the device is hosted). When working as a sequencer, notes are instead *generated in real time* to the track.

Note: Reference to the previous paragraphs if you need to know how to set up the mode of operation.



The Main section provides the basic settings and the buttons for creating and starting MIDI clips:

- **[Root]** and **[Scale]** define the scale harmonic environment to work with [\*]
- **[Create Clip]** creates a new clip for the bass-line progression you programmed
- **[Start/Stop]** can be used to start or stop the last created clip [\*]
- **[I'm Lucky]** randomizes all parameters and generates a new clip

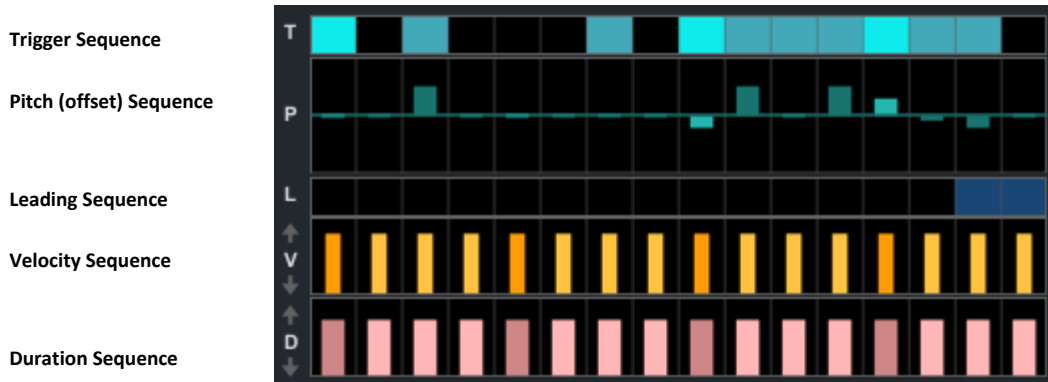
[\*] In Linked Mode these functions are synchronized to J74 Progressive.

The Options section defines some important characteristic of the entire bass line:

- **[InKey/Chromatic]** InKey adapts the bass-line so that the results *remain in key with the working scale* (for any chord tonic / degree in the progression). Chromatic instead let's the pitch values in the sequencer/editor work in chromatic mode (no scale adaptation/filtering is applied)
- **[Duration/Legato]** selects the way notes are released. With Duration being selected, notes are played for the length defined in the sequencer Duration (D) line (see next for details). With Legato selected, the bass line is performed in *legato mode* (that is: a note extends till a new note begins)
- **[Compress]** defines if skipped notes are left muted or completely removed. This affects the Legato mode: if Compress in ON skipped notes are removed and played notes extend till the next non-skipped note. If Compress is Off skipped notes are muted but left in the sequence, allowing a form of Staccato performance. More on the skip function later in this manual.
- **[Interval]** defines the number of bars the sequencer will cover. By default this is one (1) bar.
- **[Octave]** defines the reference octave and can transpose the sequence one or more octaves, up or down.

## The Sequence Section

The Sequencer section allows you to program the five fundamental characteristics of the bass line performance:



- The **[Trigger sequence]** or (T) defines when a new note is played as a step in time (unless skipped by the variation skip effect). This defines the fundamental aspect of timing, although the actual timing can be radically altered by the Rhythm section (using the Swing and/or Groove effects), as explained later.
- The **[Pitch (offset) sequence]** or (P) defines the pitch of the note. Anyway, instead of being an exact pitch (like C or D), a P value represents the *RELATIVE pitch* (or simply offset) *from the tonic of the currently active chord/degree in the progression*. Positive values move the pitch up, Negative values move the pitch down. With a A minor chord having tonic on A2, a pitch (offset) value +7 will give an E3, while a value of -5 will play an E2. With another chord, other pitches will be generated using the same rules. The [Pitch Display] (placed below the sequencer section) shows the programmed pitch offset value and which *note interval* the pitch will be in the scale. **Important:** with InKey mode selected J74 BassLine may still modify the pitch for you so that the result remains in tune with the selected scale.
- The **[Leading sequence]** or (L) controls an important performance technique: the use of "leading notes" (notes which lead to the next chord/degree). When a step has a Leading trigger ON (blue), the pitch will be not defined in reference to the current *but* to the *NEXT degree/chord* in the progression. So if the current tonic is A2 but the next degree will have a tonic of C2, a +7 offset with Leading ON will cause the pitch to become G3 (and not E3), while a -5 will give a G1 (and not E2).
- **[Velocity sequence]** or (V) defines the volume applied to the note, useful for accents or quite notes.
- **[Duration sequence]** or (D) defines the length of the note, if Legato is *not* selected. Using longer durations before shorter durations on contiguous steps you can achieve glide effects, which sounds nice on many monophonic instruments (the length of a note extends beyond the beginning of the next).

Note: Both [Velocity sequence] and [Duration sequence] offer two *little arrows* on the left side of the interface. These arrows allow you to move up and down all the corresponding values.

Other controls on this section:

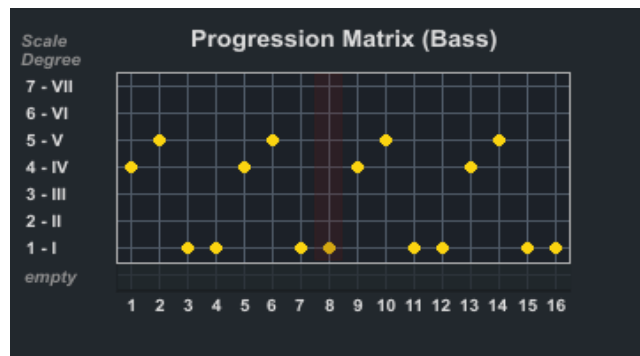
- **[Shift Left/Right]** to shift the entire sequence (indeed left or right)
- **[Step Cursor/Clock]** to activate a cursor visualizing the position for the active step, if playback is active.
- **[Preset]** which provides you with useful built-in presets.
- **[Edit Progression]** which opens the Progression Matrix for editing the progression [\*]

[\*] In Linked Mode the progression is synchronized to J74 Progressive.

Here an example of the *harmonic behavior* of J74 BassLine. The selected scale in this case is Bb Minor.



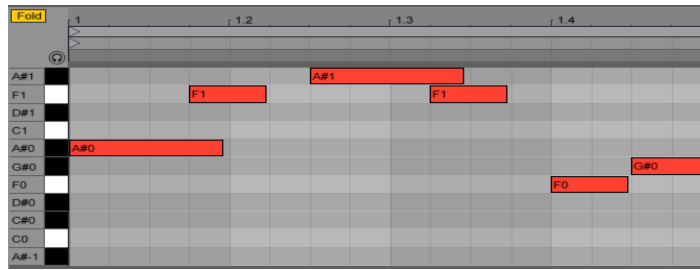
The progression is 4-5-1-1, repeated four times.



The sequence has triggers (T) on step 1, 4, 7, 10, 13 and 15. This is a variation of the 3+3+2 model often used in rhythm. Noticeable is also the use of Pitch offsets (P) and of Leading notes (L) in the sequence:

- Trigger 1 has Pitch offset = 0, so it will be the tonic (depending of the active chord / degree)
- Trigger 4 has Pitch offset = +7, so it would be a perfect fifth up from the tonic.
- Trigger 7 has Pitch offset = +12, so it would be an octave up from the tonic.
- Trigger 10 has Pitch offset = +7, so it would also be a perfect fifth up from the tonic.
- Trigger 13 has Pitch offset = -5 and Leading note trigger ON, so it would be a perfect fifth down, but based on the tonic of the *next chord*. More on this when looking at the resulting clip.
- Trigger 15 has Pitch offset = -2 and also a Leading trigger ON. Again will be looking at this in a few lines.

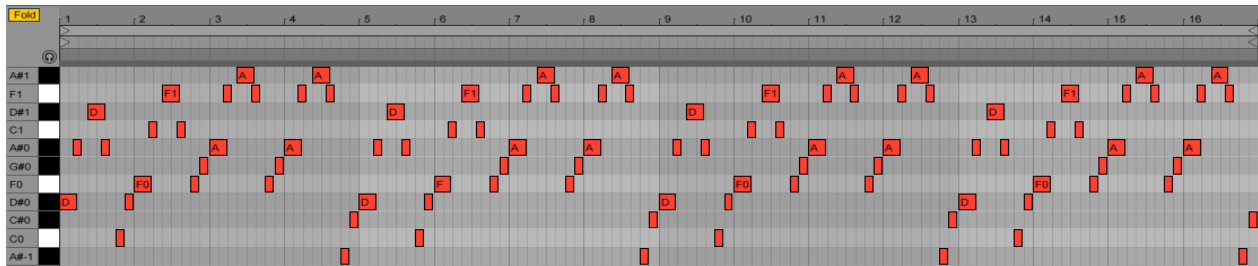
If we observe the result for the portion corresponding to a B Minor chord (B Minor is the first degree in the scale, which in the example progression is programmed at interval 3), the clip portion looks like this:



- Trigger 1 has Pitch offset = 0, so it is set to be the tonic of the chord, in this case Bb0 (or A#0)
- Trigger 4 has Pitch offset = +7, a perfect fifth up, which in this case resolves into a F1
- Trigger 7 has Pitch offset = +12, the tonic but an octave up, giving a B1 (or A#1)
- Trigger 10 has Pitch offset = +7, a perfect fifth up, again F1
- Trigger 13 has Pitch offset = -5 and Leading note trigger ON, so it maps to a perfect fifth down *but* in reference to the tonic of the *next chord*. In the example progression (at interval 3) the next chord is another B Minor (no chord change). So this gives a F0. Further in this paragraph we will see the effect of the same Leading trigger, but on the chord of interval 4 (which is followed by a different chord), resulting in a different outcome.
- Trigger 15 has Pitch offset = -2 and also a Leading note trigger ON. As in this case the next chord is also another B Minor, this give as Ab0 (G#0) note.

Let's now have a look the the entire clip, where more bars are created in relation to the different chords in the progression (degrees 4-5-1-1). This will show the effect of the harmonization *and* of the leading notes.

Here the full clip:



As you can see the results is 16 bars long, given by the 4-5-1-1 progression sequence (four bars) repeated four times. The same bass-line is harmonized each time to the active chord.

If you look at bar 3 and 4 you can see the effect of the **Leading note**. The first time (bar 3 in the clip) notes corresponding to steps 13 and 15 have been set to F0 and G#0 (as in the detailed explanation above). Anyway the second time (on bar 4) the notes on steps 13 and 15 have changed to A#-1 and C#0 as the *next chord* is a D# Minor. As **InKey** has been selected, notes not resulting part of the scale are transposed automatically to fit into the scale.

Note: The *InKey* option operates kind-of *underwater*. The best way to see it in action is by using a Pitch Offset of a *third interval* (which is a +3 or +4, depending from the context). An example will clear things up. Let's say we work on with the C Major scale (CDEFGAB) and that we use a pitch is of +4 on a step. If the tonic of the first chord is C2, +4 will gives E2 (which is up a *major third interval*). This note is in scale, no transposition needed. But, if the next chord tonic becomes D2, +4 would be F#2, which is not a note of the scale. With *InKey* active, *F#2 will be automatically transposed by the plugin to F2*, making this a *minor third interval* (which is +3). Of course, if you disable *InKey* (or better set it to Chromatic), you will get F#2 as result. This is what *InKey* really does!

**Step Operations section**

The Step Operations section is where you can do some mangling of the sequences. The section offers a number of functions (or just operations) useful while building a sequence. Some operations are *individual for each sequence line* (for instance affecting only Velocity or only Duration), while some apply *to all the lines*.



Step Operations which are individual to the sequence lines are:

- **[Rnd-T]** calls a Random function for the Trigger Sequence
- **[Rnd-P]** calls a Random function for the Pitch (offset) Sequence
- **[Rnd-L]** calls a Random function for the Leading Sequence
- **[Rnd-V]** calls a Random function for the Velocity Sequence
- **[Rnd-D]** calls a Random function for the Duration Sequence
- **[Rst-T]** resets the Trigger Sequence
- **[Rst-P]** resets the Pitch (offset) Sequence
- **[Rst-L]** resets the Leading Sequence
- **[Rst-V]** resets the Velocity Sequence
- **[Rst-D]** resets the Duration Sequence
- **[Rev-P]** reverse the Pitch (offset) Sequence (for the active triggers only)
- **[Inv-P]** inverts the Pitch (offset) Sequence (positive become negative and viceversa)
- **[Left-P]** shifts Left the Pitch (offset) Sequence
- **[Right-P]** shifts Right the Pitch (offset) Sequence

Step Operations which work on all sequence lines at once are:

- **[Rev-All]** reverse all the sequence lines together
- **[Mix-All]** redistributes the values across the steps in each sequence line
- **[Rnd-All]** calls a Random function for all the sequence lines together
- **[Rst-All]** resets all the sequence lines



## The Variations section

The Variations section is useful to add a *degree of randomness to the bass-line*. The way the randomness is applied, though, is not limited to the sixteen steps of the sequencer: it *extends to the entire progression* and each new degree in the progression will have its own randomness, with a slightly different effect. The result over the entire progression will be natural.

It is important to understand that the controls in this section only define *thresholds*. The actual random numbers (for each step and for each degree) are generated underwater (that is: you do not see them, but they exist). The higher you set a threshold for a given effect, the more likely a note will be affected by such effect. Setting a threshold to 0% will assure no variation is added on that particular aspect to any note.



Here the thresholds meaning and the nature of the effects:

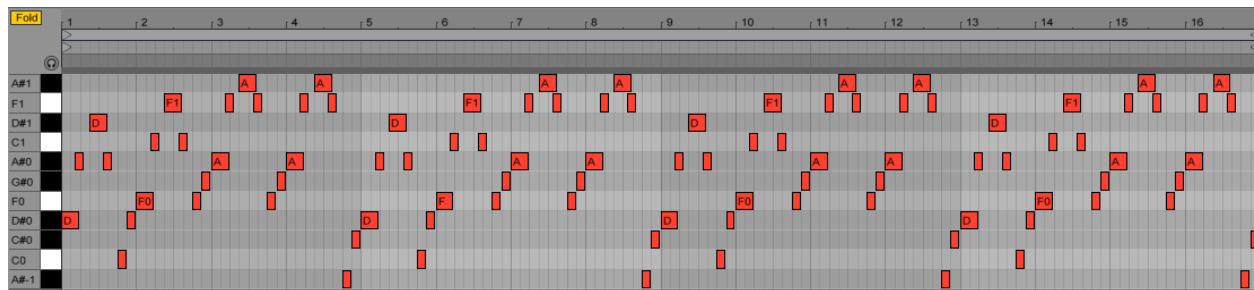
- **[Skip%]**, sets the probability threshold for *notes to be skipped*. If the random number for a note is below the threshold, the note will be skipped.
- **[Spread%]**, sets the probability threshold for *notes to be spread within the scale on a two octave range*. If the random number for a note is below the threshold, the note will be spread to a potentially different note (in the same scale).
- **[Velocity%]**, sets the range of *randomness for the velocities* (on top of the Velocity Sequence values). If the random number for a note is below the threshold, the note will be altered in volume (in proportion to the threshold).
- **[Duration%]**, sets the range of *randomness for the duration of notes* (on top of the Duration Sequence values if Legato is not active). If the random number for a note is below the threshold, the note will be altered in duration (in proportion to the threshold)

As you can see this process is inherently random. If you are not satisfied with the results, you can either *change the thresholds* or *create a new set of random numbers*.

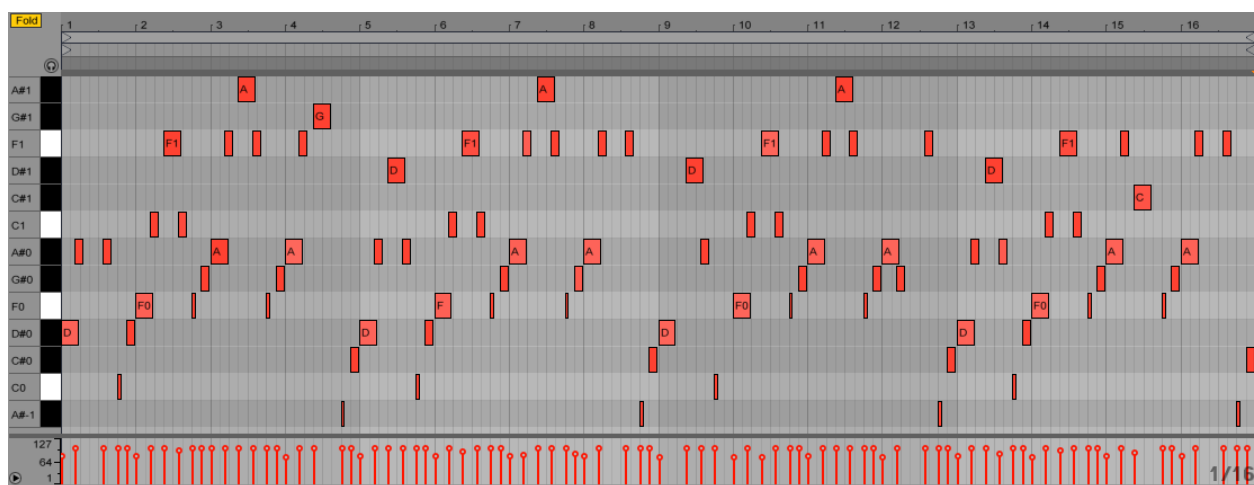
In the first case you change the threshold using the % controls (but keep the random numbers): the effect will be a variation of the same effect (as the random numbers are the same, but the thresholds have changed). If you press the underlying **[Seed]** button this generates a new set of random numbers (probability) for the notes. New clips generated against the new set, even with unchanged thresholds, will be (potentially) radically different.

Here an example (with the same progression proposed before) first without and the with variation effects being applied (in this case all threshold have been set to 20%, for demonstration purposes):

Original (all thresholds = 0%):



With the Variations effects applied (all thresholds at 20%):

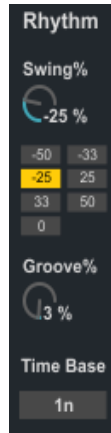


As you can see:

- Some notes have been *skipped*. See for instance at bar 1: there is a D#1 in the first clip which has been skipped in the second clip. Notice also that in bar 5, which restarts the same 4-5-1-1 progression a second time, the same does not apply. This to show that the function is *not* repeated at each new bar, but has some unpredictability across the progression.
- There are also examples of notes being changed in pitch by the *spread* effect. In the second clip there are instances of the G#1 note, which are not present in the first clip.
- *Velocities* are clearly being affected, as we see a fluctuation in velocity in the second clip (original volumes where flat at velocity = 100, which is the default).
- Also the *Duration* has been affected by the variation: the second F0 (in bar 2) in the second clip is shorter if compared to the same note in the first clip.

## The Rhythm section

The Rhythm section allows you to *manipulate the timing in a rhythmic way*, affecting the trigger times, which are otherwise quantized to 1/16<sup>th</sup> note lengths, as in traditional step sequencers. The section provides two separate effects, Swing and Groove, each with a different rhythmic goal.



### [Swing%]

The Swing effect adds *incremental anticipation or hesitation* to the triggers. This is an extremely powerful tool for giving the bass-line an unusual, funky cadence. Negative values anticipate the triggers, positive values delay the triggers. The *incremental* nature is defined by the combination of the [Swing%] value and the [Time Base] setting and can easily provide ways to add triplets or 32<sup>nd</sup> notes in the mix.

Useful rhythmic values for generating triplets and 32<sup>nd</sup> notes are the integer fractions of the interval (which by default is set to one bar), such as: 1/4 (+/-25%), 1/3 (+/-33%), 1/2 (+/-50%). These values can be quickly set up using the little box below the [Swing%] control. Other [Swing%] values, unrelated to such fractions, will create a more unusual syncopation. As mentioned, an important factor which affects how the incremental time shifting is applied is the setting of the [Time Base] control, which is explained just a few lines below (with a few examples).

### [Groove%]

The Groove effect adds *per trigger independent random anticipation or hesitation*, and does this *looping the effect across the degrees of the progression* (each time a bass-line restarts, as with each new degree, the same groove is applied). This has a rhythmic effect, given by the looping. Anyway the overall result has a more random emphasis, as the timing has a random component. The way to combine the [Groove%] values with the [Time Base] setting is explained below (with a few examples). It is also important to notice that in the case of [Groove%] the [**Seed**] button can be used to generate a new random probability set. The [Seed] does not affect the [Swing%] effect.

### [Time Base]

The [Time Base] setting affects both the [Swing%] and [Groove%] effects. This setting defines the *area for the effects to be applied/looped on*. Essentially this influences which beats will be less affected (and more "on beat") and which will be more effected (and potentially more "off beat" or moved towards triplets or 32<sup>nd</sup> notes).

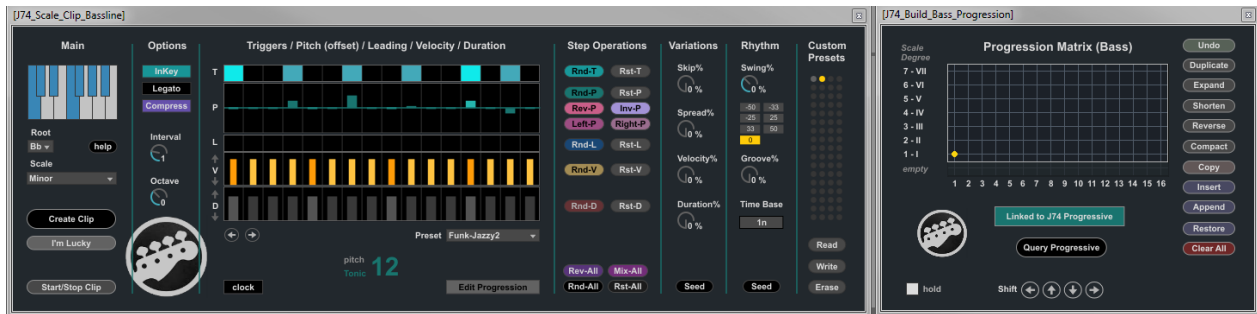
Possible values for [Time Base] are:

- 4n (or a 1/4<sup>th</sup> interval)
- 2n (or a 1/2<sup>th</sup> interval)
- 2dot (or 3/4<sup>th</sup> interval)
- 1n (or full bar interval)

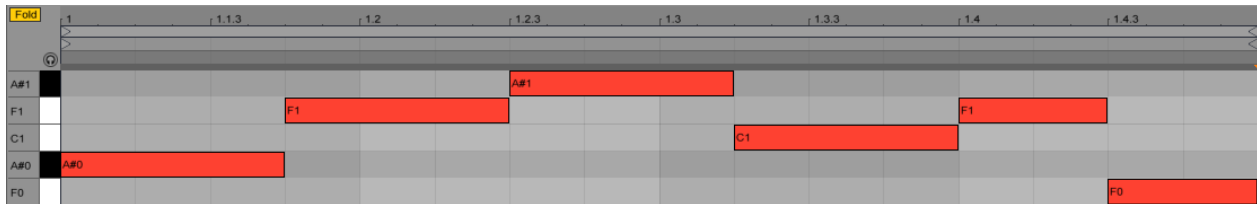
Let's do some examples so that the manipulation given by these effects will be more intuitive to see.

### Example of [Swing%] effect

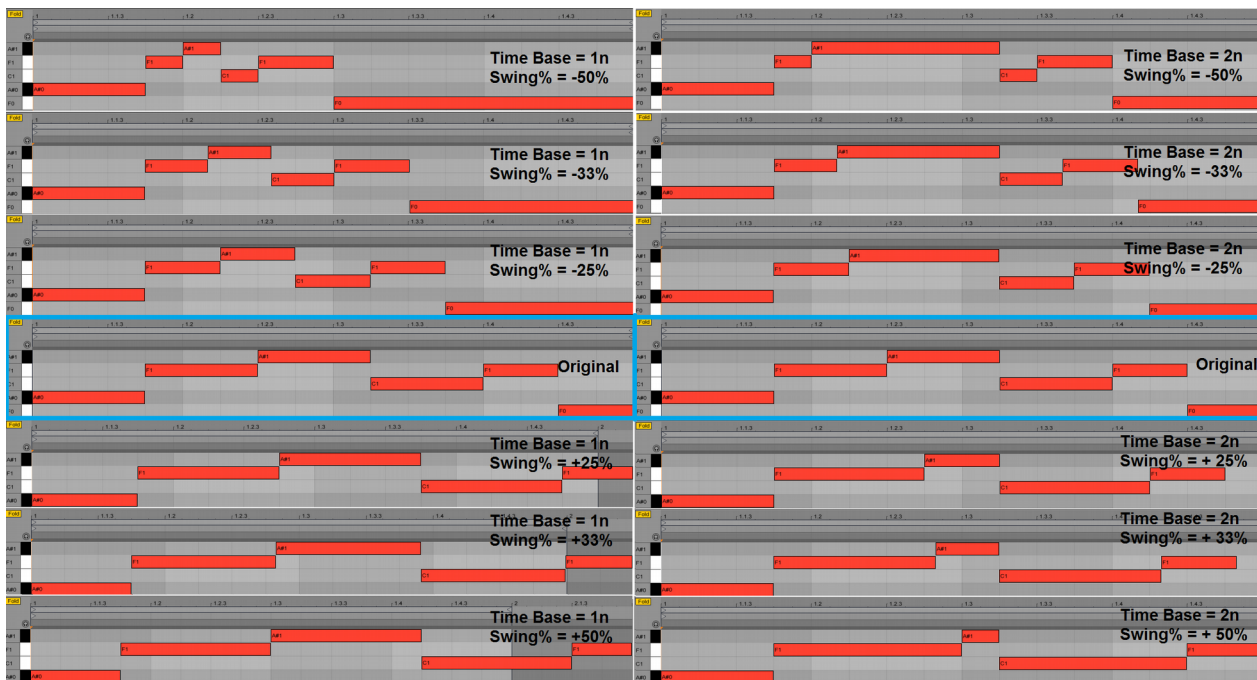
Here the device setup:



When a clip is created *without* Rhythm section effects (both at 0%), this results in the following bass-line:



The following shows how the clip changes with different values of [Swing%] and [Time Base], as depicted:



On the left side all clips have been processed with [Time Base] = 1n, on the right side with [Time Base] = 2n. In the middle (fourth row) the original clip is re-obtained, as [Swing%] is set to 0%. Moving up you can see the effect of a gradual *decrease* of [Swing%] (from 0%, to respectively -25%, -33% and -50%). Moving down you can see the specular effect of a gradual *increase* of [Swing%] (from 0%, to respectively +25%, +33% and +50%). As you may have noticed, the timing of notes changes, *in rhythmic fashion*.

With [Time Base] = 1n, the area for the effect extends to the full length (1n = 1 bar), so the swing either compresses or expands all the triggers time, with all notes either being anticipated (with [Swing%] < 0) or delayed (with [Swing%] > 0), in gradual fashion (notes at time 0 are unaffected, the more you proceed, the more swing is applied). At each new bar the effect restarts (as we have [Time Base] = 1n), with a looping feel.

With [Time Base] = 2n, the area is reduced to half a bar (2n = 1/2<sup>nd</sup>) and therefore the compression/expansion restarts at each half bar. Notes are anticipated with [Swing%] < 0) or delayed with [Swing%] > 0, but in gradual fashion and with a periodicity of half a bar: notes at time 0 are unaffected, the more you proceed till the half of the bar, the more swing is applied and then, at half of the sequence, the effect starts all over again. This give again a looping effect, but a quite different one.

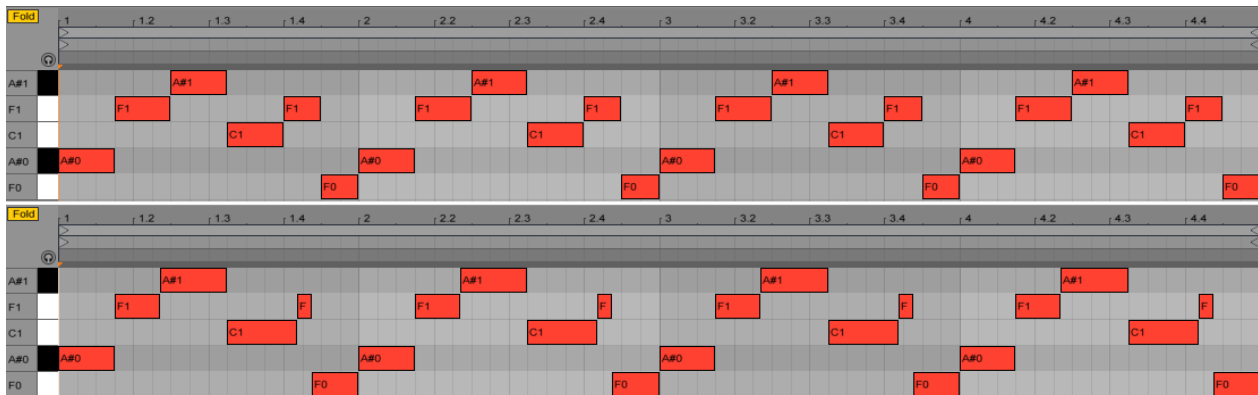
The same logic applies with the other [Time Base] values, 2dot (3/4<sup>th</sup>) and 4n (1/4<sup>th</sup>), with the areas of looping having their respective periodicity length of 3/4<sup>th</sup> and 1/4<sup>th</sup> of the [Interval]. Particularly interesting is the case of 2dot (3/4<sup>th</sup>). This setting partitions the clip in an asymmetrical way, in trunks of three beats. As this extends across multiple bars, it produces a quite strange result, full of triplets and pauses. Try it out!

Note: the values of +/-25%, +/-33% and +/-50% for the [Swing%] control are important. They move the notes from the boundary of the 1/16<sup>th</sup> into intervals of 1/32<sup>nd</sup> or, in case of notes separated of 1/8<sup>th</sup>, it introduces triplets. Needless to say these are good elements to throw in for an interesting musical receipt, without actually needing to be a funky player or program them meticulously on the grid.

As you can experience by yourself, the difference to the ear between a simple “straight” sequence and the same sequence processed with [Swing%] can be quite noticeable. Some of the combinations of [Swing%] and [Time Base] introduces peculiar “swing cadences” into the sequence. The results can be quite funky indeed!

Example of [Groove%] effect

The [Groove%] effect is more random-like, although it is still very rhythmical (as it is looped across the interval). Let's take the same sequence setup, as used in the example above, and apply a [Groove%] of 50% in combination with [Time Base] set to 2n. The progression is also repeated four times. This results in the following clips (on top the original, on the bottom the one with [Groove%] = 50% and [Time Base] = 2n):



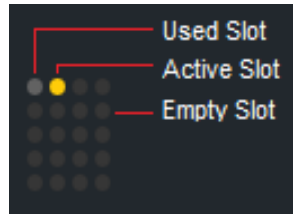
As you can see each sequence step has now a per-step different anticipation or hesitation (delay) timing. You can also see that this is repeated over each interval of the progression (interval is here set to 1 bar, the default).

Note: [Groove%] works at its best with just a limited amount, something about 20-25% (50% in this example is just to show the results more clearly). Some little [Groove%] can be combined with [Swing%] for good results.

## The Custom Preset section

In the Sequencer section you may already have noticed a menu with *built-in presets*. These presets have been made to give some specific result on some popular genre of music and are particularly useful to show how the changes affect the bass-line sequence and how they can be combined to achieve a particular musical result.

As you can get from their names, there is a level of “taste” involved with these presets, which is probably a bit personal (read: there is a lot of funky stuff in there). This may or may not result good to every body.



That's why there is also a dedicated *Custom Preset section*. This allows you to create your own presets, save them and recall them. They can be stored in bank files, recalled when necessary, in any new project.

The section shows a matrix of *bulbs* and few buttons. The bulb represents a memory slot. The color of the bulb tells you if the slot is free (dark gray), if it holds already a preset (light gray) or if it is active (yellow). You can also save or load the whole bank through files.

Here how it works.

- To store a snapshot on a slot press **SHIFT+CLICK** on a *bulb*
- To recall a snapshot from a slot **CLICK** on a *bulb*
- To erase a snapshot do **SHIFT+ALT+CLICK** (Windows) / **SHIFT+CMD+CLICK** (Mac) on a *bulb*
- **[Read]** can be used to load a preset *bank* from a preset bank file saved on your drive **[\*\*]**
- **[Write]** can be used to save a preset *bank* as a preset bank file on your drive **[\*\*]**
- **[Erase]** can be used to clear all custom presets (all slots / bulbs) in the current bank.

**[\*\*]** Important: preset bank files must have a *.maxpresets* extension to be correctly saved and recalled!

## The Progression Matrix (Bass) Window

The Progression Matrix is where you program *your own progression*, as indeed a *sequence of degrees in order of time*. Before showing how the user interface works in this view, let's give a short explanation on what *degrees* are.

### Progressions and Degrees in Western Music

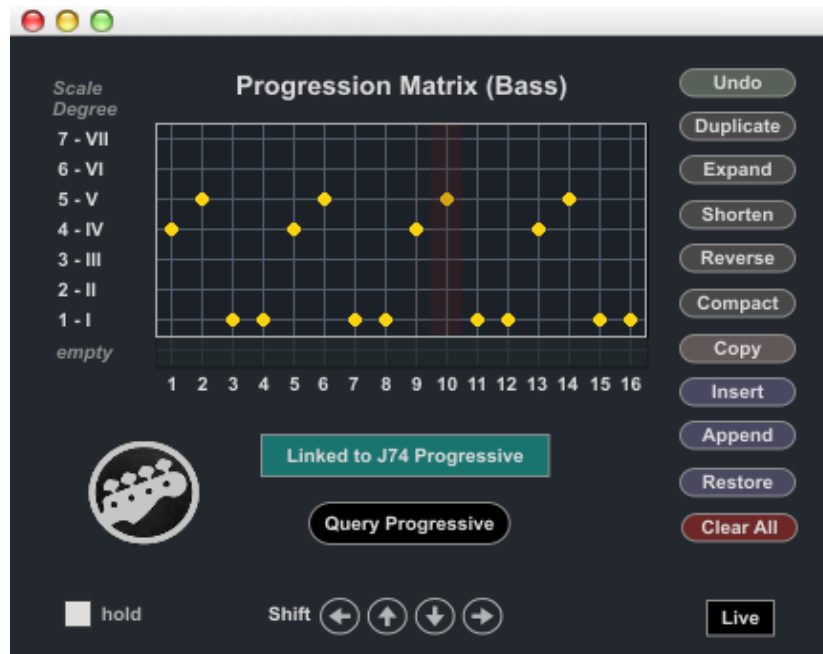
The majority of western musical *scales* uses *seven notes* (or is derived from scales using seven notes). Chords can be built from such scales by a procedure which adds notes in the scale at specific intervals (third and fifth intervals), each time starting from a different note of the scale. Using this method (called the diatonic method) *seven chords* can be built, each chord associated to a different starting note, part of the selected scale. These starting notes and their associated chords are what we call *degrees* of the scale. These starting notes are also called *tonic* notes in the context of their corresponding chord degree.

Consider for example the C Major scale (C D E F G A B). Applying the diatonic method results in this chord set:

- Chord Degree 1 (I): C major, C-E-G (= triad from the 1st note in the scale, C). C is the tonic of this chord.
- Chord Degree 2 (II): D minor, D-F-A (= triad from the 2nd note in the scale, D). D is the tonic of this chord.
- Chord Degree 3 (III): E minor, E-G-B (= triad from the 3rd note in the scale, E). E is the tonic of this chord.
- Chord Degree 4 (IV): F major, F-A-C (= triad from the 4th note in the scale, F). F is the tonic of this chord.
- Chord Degree 5 (V): G major, G-B-D (= triad from the 5th note in the scale, G). G is the tonic of this chord.
- Chord Degree 6 (VI): A minor, A-C-E (= triad from the 6th note in the scale, A). A is the tonic of this chord.
- Chord Degree 7 (VII): B dim., B-D-F (= triad from the 7th note in the scale, B). B is the tonic of this chord.

### Progressions and Degrees in J74 BassLine

In J74 BassLine (as in J74 Progressive) progressions are expressed using a *sequence of degrees*, which is a abstraction concept from the actual scale. The Progression Matrix Window is the place where you can program your progression [\*].



As you can see from the picture, the progression is expressed *as sequence of degrees in order of time*. Where a yellow **dot** is placed, a degree is inserted. When an actual scale is applied this results in actual *chords* and in *tonic notes*. J74 BassLine automatically calculates the tonic notes of the corresponding chord, using them as the *reference 0 value for the Pitch Offset (P) sequence*.

The actual programming in the Progression Matrix is simple:

- On the horizontal axis you define *when* the degree is placed in time (time between 1 and 16, the time unit defined by the [Interval] in the Options).
- On the vertical axis you define *which* degree will be inserted (degrees 1 to 7)
- A special value for a dot is the *empty or rest interval*. An empty / rest can be inserted by adding a dot *on the grayed-out row set below the row for degree {1 - I}* and named [**empty**].

The [**Hold**] toggle defines how rest intervals are translated into the clip. If [Hold] is set to ON, it holds the bass-line on the previous degree over the empty interval. If Hold is set to OFF no bass-line is played in that interval.

The following operations are available on the Progression Matrix Window:

- [**Left/Right**] Shift arrows: Applies a rotation to the left or to the right
- [**Up/Down**] Shift arrows: Move the progression one degree up or down
- [**Undo**]: does an undo of the last operation
- [**Duplicate**]: duplicates the Progression
- [**Expand**]: shifts right and duplicates the first chord
- [**Shorten**]: shifts left and removes the first chord
- [**Reverse**]: reverses the chord progression
- [**Compact**]: removes any chord repetition
- [**Copy**]: copies the progression in memory (for paste action like Insert, Append or Restore)
- [**Insert**]: does a paste of the last copy before the current progression
- [**Append**]: does a paste of the last copy after the current progression
- [**Restore**]: deletes all and does a paste of the last copy
- [**Clear All**]: erases the progression entirely

[\*] In Linked Mode ([**Linked to J74 Progressive**] = ON) the progression matrix of J74 BassLine is synchronized to J74 Progressive. Anyway synchronization only works *one way*: changes made in J74 Progressive are pushed to J74 BassLine, but *not the other way around*. This is intentional and allows you to change the bass-line so that it can play differently from the chords (and their tonic notes). An example of use for this is to keep the bass-line on the scale root as tonic while changing chords, as it is often done in dance and funky music.

On the Progression Matrix you also find a shortcut button to enter the “Live Standalone Sequencer” mode of operation, in the form of a [**Live**] toggle. Is set to OFF (black) the BassLine device is set in Editor Mode (by default linked to J74 Progressive). If set to ON the mode of operation changes into “Live Standalone Sequencer” mode, still keeping synchronization to J74 Progressive if this was enabled. This is useful for switching into on the fly programming, eventually in combination with J74 Progressive own Live mode.

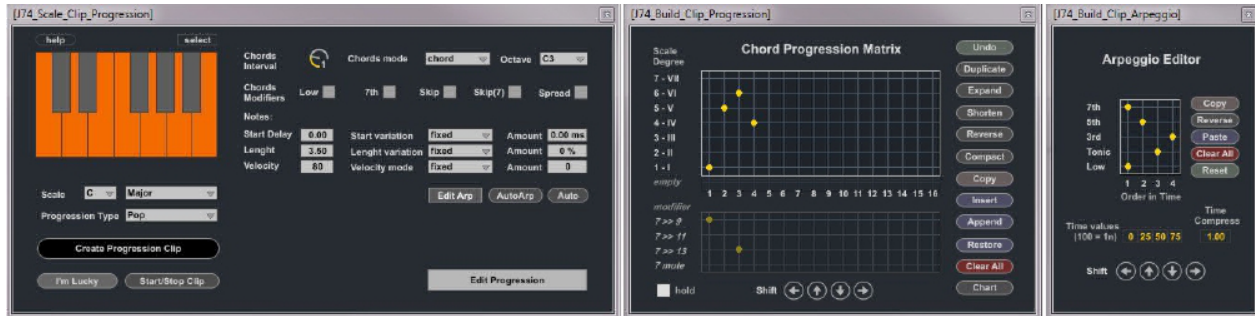
Next a few additional considerations on the modes of operation which should clarify this.



## Additional information on Linked mode operation (working with J74 Progressive)

J74 BassLine can efficiently be used in combination with J74 Progressive providing an integrated tool for writing music (chord progressions and harmonically consistent bass parts). Using the two tools together in “Linked Mode” you can work with the two tools at the same time, having their basic information always [\*] synchronized.

To activate Linked Mode set [**Linked Progressive**] to ON (which is actually the default), in the docked device view (OR equivalently [**Linked to J74 Progressive**] = ON in the Progression Matrix View: they do the same thing).



In this mode J74 BassLine *synchronizes to J74 Progressive*. Any change made in J74 Progressive to the scale settings (root and scale) and to the progression are automatically applied to J74 BassLine. Also, if you press [Start/Stop] after creating a new clip on any of the two devices, the start or stop action is applied to both simultaneously.

### Important Notes:

- In Linked mode, J74 Progressive is automatically set to "track mode" (clips of J74 Progressive are automatically created in the track J74 Progressive is into, same behavior as J74 BassLine).
- Changes to the Root/Scale and to the progression as done in J74 Progressive are automatically copied to J74 BassLine.
- Start/Stop buttons operate in tandem between the device.
- If you changed the J74 BassLine progression or temporarily disable Linked mode you can the [**Query J74 Progressive**] button to synchronize manually.

[\*] As mentioned already synchronization in Linked Mode pushes changes made in J74 Progressive to J74 BassLine but not the other way around. This option is useful for some specific applications, such as *keeping the scale root tonic bass while doing chord changes*. This is a powerful bass technique often used in dance, funky and even jazz music. For example you could have J74 Progressive programmed with a chord progression 1-5-6-4, but modify the progression of J74 BassLine to have something different, like 1-1-1-4 or even 1-1-1-1, keeping the same degree on the root of the scale for multiple intervals/bars. Try yourself and hear the effect!

Note: You can work in Linked Mode with J74 Progressive in both “Editor Mode” and “Live Standalone Mode”:

- In “Editor Mode” with [**Linked Progressive**] = ON the tools work as synchronized editors.
- In “Live Standalone Mode” with [**Linked Progressive**] = ON, and J74 Progressive in its own Live mode, the tools work as synchronized real time sequencers.

## Additional Information on modes of operation

The J74 BassLine plugin can work in several modes for various goals:

- Linked - Editor Mode
- Linked - Live Standalone Sequencer Mode
- Unlinked - Editor Mode
- Unlinked - Live Standalone Sequencer Mode
- Live Chords Sequencer Mode

Here a few additional notes on these modes of operation and what you can use them for.

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### 1) Linked - Editor Mode (default)

This is the default mode of operation J74 BassLine turns to *if J74 Progressive* is part of the Live set. In “Editor Mode” (with **[Linked Progressive]** = ON) the two tools work as *synchronized editors* (passing through any incoming MIDI and creating MIDI clips) and *synchronize to J74 Progressive* settings, as explained in the previous paragraphs. There is no additional consideration applicable to this mode other than what already described in this user manual.

Settings: **[Mode]** = “Editor Mode” & **[Linked Progressive]** = ON

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### 2) Linked - Live Standalone Sequencer Mode

You can turn to this mode of operation if you like to work on a composition without passing first through MIDI clip creation. The idea is to enable *both J74 Progressive* own Live mode (see J74 Progressive instructions for this) and J74 BassLine “Linked - Live Standalone Sequencer” mode, at the same time. In this way the two tools work as *synchronized real time sequencers*.

Other relevant notes:

- This mode of operation is meant to be combined with J74 Progressive own *Live mode* for changes to be effective (a change in the progression applied to *both* chords and bass).
- In this setup you should use J74 Progressive Chord Progression Matrix and Root/Scale setting to define the progression and the scale, and program the bass line using BassLine sequencer in the main view.
- Random variations of Skip%, Spread%, Velocity% and Duration% modifiers can sound different in this mode compared to the Editor mode, due to the different random generation engines being used.
- With the exception of Leading Notes and Legato, all features in J74 BassLine are supported in this mode.
- For the limitations of Live mode in J74 Progressive (on J74 Progressive own feature set) please refer to the J74 Progressive user manual.

Settings: **[Mode]** = “Live Standalone” & **[Linked Progressive]** = ON

### 3) Unlinked - Editor Mode

J74 BassLine can of course work as a standalone editor *without* J74 Progressive. In this case (with **[Mode]** menu = "Editor Mode", **[Linked Progressive]** = OFF), it is *on* J74 BassLine itself that you select the root and scale and program your progression in the Progression Matrix Window. If no J74 Progressive is in your liveset, this is actually the mode J74 BassLine will automatically turn to. There are further no caveats. In this mode you just work as explained in this manual and all features and techniques described here apply.

Settings: **[Mode]** = "Editor Mode" & **[Linked Progressive]** = OFF

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### 4) Unlinked - Live Standalone Sequencer Mode

In this mode J74 BassLine works *as a more traditional real-time sequencer* while using *its own progression and scale settings for the harmonic features*. Please note that all features *except* Leading Notes are supported in this mode and that the random variations of Skip%, Spread%, Velocity% and Duration% modifiers may sound different in this mode compared to the Editor mode due to the different random generation engines being used.

Settings: **[Mode]** = "Live Standalone" & **[Linked Progressive]** = ON

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### 5) Live Chords Sequencer Mode

J74 BassLine works as a *real time sequencer* and *follows the chords detected by the "J74 ChordDetect.amxd" companion device* (also included in this pack).

- Put the J74 ChordDetect.amxd device on the track where chords, as MIDI notes, are received (in real time or triggered from a clip).
- Put J74 BassLine on the track with the bass instrument you wish to use.

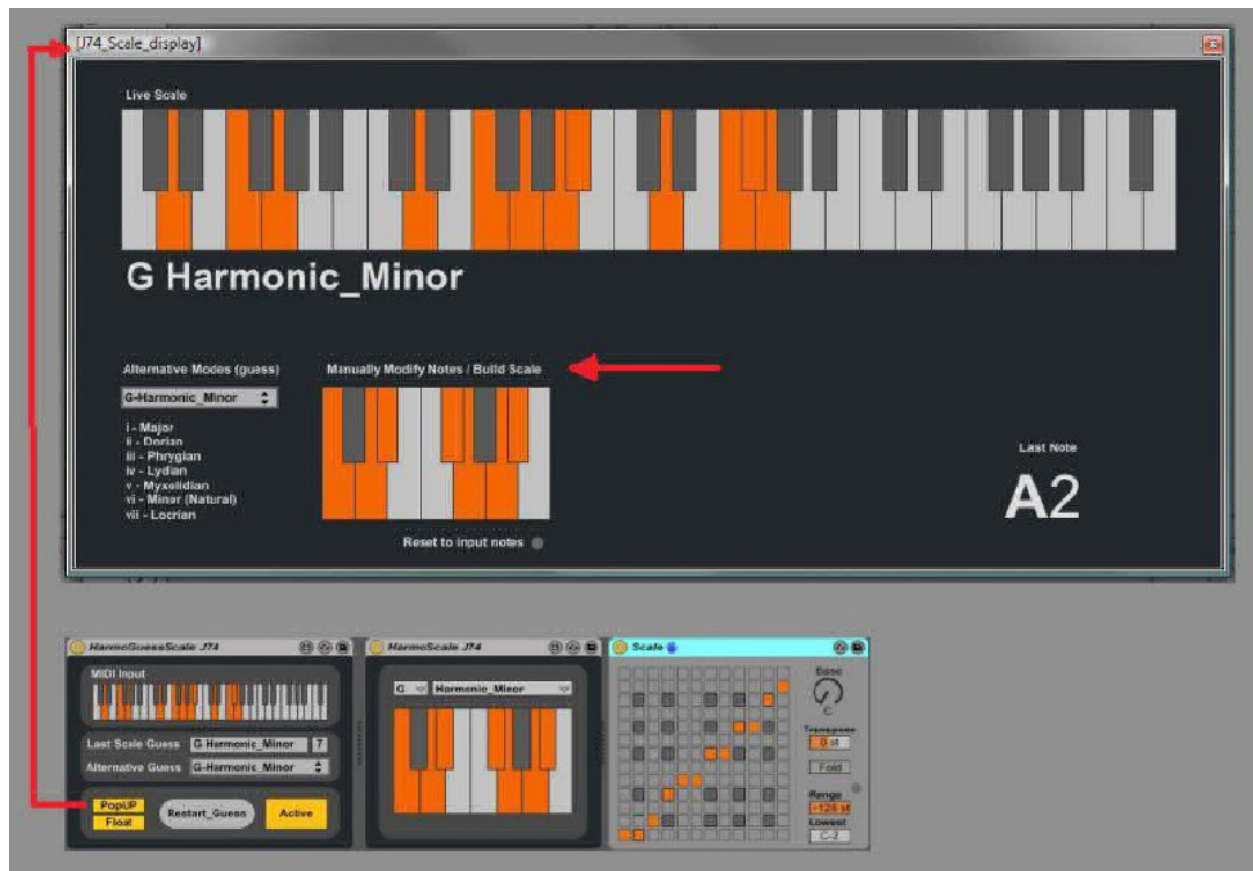
J74 BassLine will follow the chords being detected and adapt the bass sequence to the chord tonic, playing in tune.

- Please note that in this mode the setting of **[Linked Progressive]** is not relevant (there is no scale or progression to follow, but real time chords).
- As chords restrict the set of notes available, the bass line being produced may present less harmonic variation if compared to the bass line which could be produced having a full scale available.
- All features *except* Leading Notes, Legato *and* Progression Matrix are supported in this mode.
- Random variations of Skip%, Spread%, Velocity% and Duration% modifiers can sound different in this mode compared to the Editor mode due to the different random generation engines being used.

Settings: **[Mode]** = "Live Chords" & **[Linked Progressive]** = Any

## One last tip: Get the free J74 Harmotools...

HarmoTools is a set of devices for MIDI harmonization for Ableton Live (Max for Live). They can be used to adapt in real-time MIDI to chords and scales or to simply discover and display chords and scales. It can be used within a Live set or even in collaboration with other musicians using a TCP/IP network.



The set includes:

- Max for Live analyzer and harmonizer based on input chords
- Max for Live analyzer and harmonizer based on a selected scale
- Max for Live diatonic chord harmonizer based on a selected scale
- Max for Live diatonic auto-populated rack of chords (\*)
- Max for Live add-on for network communication of chord and scale information
- Standalone chord analyzer which can communicate via OSC (TCP/IP) to the Max for Live tools
- Standalone scale selector which can communicate via OSC (TCP/IP) to the Max for Live tools