

Synclavier® Release 4.12

October 25, 1998

Release Notes for Synclavier® Release 4.12

Synclavier® Release 4.12 continues our plan of bug fixes and feature additions across the entire spectrum of Synclavier® software.

Highlights

Real Time Software

- Click operation simplified and improved
- "Live" click track operation restored and improved
- Zero beat now displayed prior to first click
- Sequence Mark Start is enabled when start point is entered
- Changes to L-page "Mark Start" behavior available in beta version
- L-page landscape display improved
- L-page no longer hides Macintosh mouse cursor
- Transpose button operation enhanced
- Termulator stays on same screen when window is refreshed
- Audio Event Editor Cue Directory re-opens correctly
- G-page function keys implemented
- Script/Reverse Compiler now translate Track Solos and Names
- Pedal 1 reinstated as default RTE controller
- 2 new Defaults to make life easier
- SKT of Track Partial retains keyboard parameters
- New PunchIn and Record safety feature
- Inverted RTE response changed

Bug Fixes

- New Track Sliding Algorithm
- 2 Audible Click Anomalies Repaired
- Q-page Click On/Off status display fixed
- Other Click Track related bugs corrected
- Recording of Real Time Effects bugs fixed
- G-Page sound file offsets vrs. Tempo Map corrected
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Tutorial

- Programming "Swing" quantization

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- Significantly enhanced Cue Sheet printing via MixMap™
- More drawing bugs fixed
- Fixed bug causing track solos to get stuck on
- Fixed bug where scrubbing prevented further track sliding
- Several crash bugs fixed

Autoconform

- Improved update time for many cues

InterChange™

- Better handling of file aliases to remote file servers

Installation Notes

The various custom fonts used by AutoConform, EditView™ and Termulator have been gathered into a "font suitcase" that is automatically placed in your system folder during installation. This allows us to completely fix a number of nagging and annoying font drawing bugs in Termulator. This will also save RAM when multiple applications are run at once.

If you regularly move software between machines without doing a formal installation, please remember to bring the "Synclavier® Fonts" file with you.

Note: You must restart your computer after installation so that the updated SYNCNet Init gets installed!!!

Real Time Program

Important Notes

The Click Rate button and the Transpose button operate slightly differently in 4.12. Specifically, the click track audio output is changed independently of the click track mode. Additionally, the Transpose button now can be "armed" for a single transposition, or can be latched "on". Both of these changes are explained in detail below.

Click operation simplified and improved

In music production, toggling the click is something that's done so frequently, and often of a time-critical nature, that it needs to be immediate and should not require repeated multiple button presses. Hence the following:

The click's on/off status and the click's display format are now independent parameters. Now, either of these can be toggled without affecting the other. Most importantly, the click can ALWAYS be instantly turned on or off simply by pressing the **Click Rate** button. Stepping through the display formats is still done in the usual way of holding **Click Rate** while pressing **Continue**. Furthermore, the on/off status of the click is ALWAYS visible just by glancing at the **Click Rate** button.

Regardless of what parameters are selected, the **Click Rate** button is lit when it's on and unlit when it's off. You may want to be aware that the click's on/off status actually toggles when the **Click Rate** button is released, not when it is pressed. This was done so that the click's on/off status could remain unchanged if any other applicable buttons* are pressed (or if the knob is turned) before the **Click Rate** button is released. This is what enables the click's display format and settings to be changed without toggling click's on/off status.

You can use this knowledge to your advantage in the following ways.

1. If the sequence is playing and you must toggle the click's on/off status at a precise moment, don't linger on the button. Press it as far in advance as you like, but release it with precision.
2. If you wish to change the Click Rate without changing the click's on/off status, just hold the **Click Rate** button until you've commenced dialing.

* The buttons which have special functions if pressed while Click Rate is being held are: External Sync, Speed, Transpose, Fast Forward, Rewind, Start and Stop.

"Live" click track operation restored and improved

The effort to restore the click track feature (sometimes referred to as "Live Click"), which began with Release 4.11, has now been completed! This feature has been inoperative since release 2.7 due to incompatibilities with the Tempo/Meter mapping introduced at that time. Not only is the feature now restored, but it has been greatly improved in two ways. Firstly, it works the same with tempo-mapped sequences as with non-mapped sequences. This will enable users to set up customized quantization grids that can be looped or chained across tempo changes. Secondly, all of the known bugs which the feature exhibited even prior to release 2.7 have been repaired.

Prior to release 2.7, the click track feature could be activated by holding the Click Rate button while pressing a Track button. With the introduction of tempo/meter mapping, this sequence of button presses no longer activated the click track feature but instead generated a tempo map matching the notes on the track. A similar function which generated the map and also conformed all other tracks to that map was assigned to a different sequence of button presses (holding click and speed while pressing the track's button). Unfortunately, these functions were quite dangerous to have so accessible on buttons because once activated, the current sequence was irreversibly converted.

So, in order to achieve the following goals:

- 1.To once again have the click track feature accessible from the buttons,
 - 2.To group all of these related functions together so that users need not memorize a multitude of different sequences of button presses,
 - 3.To help avoid accidental and irreversible sequence conversions,
- ...these functions have all been reorganized as follows:

When holding the **Click Rate** button while pressing a **Track** button, you will now see a message in the VK window indicating which function will be executed when the **Click Rate** button is released. Repeatedly pressing the **Track** button(s) steps through the following options:

- * USE FOR LIVE CLICK
Note: If this track is already the click track, then this option will be:
REVERT TO INTERNAL CLICK
- * GENERATE TEMPO MAP
- * GENERATE MAP AND CONFORM ALL
- * ABORT

Aside from the obvious convenience and utility of this, two added levels of safety are also provided in the event that the user accidentally presses this sequence of buttons. First, the user can select "Abort" (as long as the Click Rate button hasn't already been released). Second, since the first option to appear is "Use Track For Live Click" which does not actually alter the sequence, no harm is done if this is accidentally invoked, and the user can simply repeat the sequence of button presses to be greeted with "Revert To Internal Click". Another reason for having "Use Track For Live Click/Revert To Internal Click" as the first option is that when using click tracks as quantization maps, it's typical to be turning them on and off frequently.

Zero beat now displayed prior to first click

The VK window beat counter will now display the beat as 0 until the first click occurs. This is handy because when using a click track, the first click

doesn't necessarily occur at the start of the sequence, and it's nice to see the number increment when it happens.

Sequence Mark Start is enabled when start point is entered

When the user dials in a Start Mark, it now automatically sets to ON. This is more ergonomic since the user probably wouldn't be entering a mark unless he/she intended to use it right away. This has been done on the S-page as well. (It already behaved this way on the Q-page Motion Panel.) This "auto-enable" behavior will also occur when Mark is set by holding Mark while pressing a Track button.

Changes to Mark Start/Mark End operation

To address a long-standing limitation of the system, the way L-page Mark Start/Mark End information is stored in the Synclavier® has been changed. Due to the somewhat experimental nature of this change, I have only made it available in a special version of the Real Time Software (4.12.1) that is **available to everyone upon request**.

Prior versions of software always looked in the *sound file itself* for Mark Start/Mark End information. This theoretically allowed you to use a sound file on a track, and then adjust the Mark Start/Mark End of the sound file and have those changes effect every place where that sound file was used.

Unfortunately, this method of operation was most likely what you *did not* want to occur, and it prohibited the ability to set a Mark Start/Mark End within the middle of a long sound file, record that portion on a track, reset the Mark Start/Mark End to a different region of the same sound file and record that different region on a another track.

An informal polling of Synclavier® users yielded a unanimous recommendation to change the way Mark Start/Mark End information is handled . Accordingly, We have made these changes for Release 4.12.1.

This new method stores Mark Start/Mark End information *in the timbre itself* when a patch is created.

The operation of this new feature is very straightforward and essentially invisible. When a sound file is called up to the keyboard, the Mark Start/Mark End information is copied into the patch at that time. If the Mark Start or Mark End is changed from the L-page, those changes are updated in the keyboard timbre as the changes are made.

Once the keyboard timbre has been recorded onto a track, the Mark Start/Mark End can be freely changed from the L-page *without affecting the sound of the recorded track*.

Changing the 'saved' Mark Start/Mark End information is straight-forward: call up the timbre to the keyboard with SKT; make any necessary changes from the L-page (or the I-page or knob in the case of Mark End); then SMT the timbre back onto the track in question.

L-Page Landscape Display

The "landscape" display on the L-page underwent fairly significant rework and will hopefully be easier to use. We've implemented a smaller cursor on the L-page to make it easier to grab each end of the landscape box.

Additionally, you can click any where within the highlighted box to move it precisely from that point. The time scale of the landscape bar is also now quite accurate. The image of the landscape display on the screen was modified to make it easier to use on the 2/3 and 1/2 size Termulator screens. Additionally, clicking on either side of the landscape 'box' performs page forward/page backward functions.

L-page no longer hides Macintosh mouse cursor

The Macintosh mouse should now always be visible when using the L-page.

Transpose button operation enhanced

Pressing the transpose button now steps through the following three states...

OFF: Transpose Off
ON: Transpose On - will turn off automatically when a key is pressed.
BLINKING: Transpose Locked On - will stay on until pressed again.

This will allow users the option to lock transpose on so they can press different keys while the sequence plays, when this is desired. But in the more typical scenario, pressing the button once automatically turns the Transpose feature off once the key is pressed. Hopefully this will prevent accidental loss of transpositions when users forget to turn it off manually.

Termulator stays on same screen when window is refreshed

Termulator now retains the current screen information whenever the Refresh function is enabled from the pull-down menu. Previously it would return to the Welcome screen.

Audio Event Editor Cue Directory bug fix

The Cue Directory Panel of the Audio Event Editor will now be positioned correctly when it is re-opened. In prior software releases the position was not stored correctly when the panel was closed after scrolling forward or backwards with the scroll bar arrows. The panel should now restore correctly in all cases.

New G-page function keys implemented

Four function keys have been added to the G-page that enable users to sharpen or flatten pitches or change octaves with just one keystroke. They are as follows:

F5 Flatten by 1 semitone
F6 Sharpen by 1 semitone
F7 8vb (Flatten by 1 octave)
F8 8va (Sharpen by 1 octave)

These functions operate on the note under the cursor. For now, it doesn't matter if the cursor is on the pitch field or not. In a later release however, these functions may be expanded to increment/decrement times when the cursor is over a time field, etc.

Script/Reverse Compiler now translate Track Solos and Names

The Script compiler and reverse compiler now translate Track Solo states and Track Names.

Pedal 1 reinstated as default RTE controller

In Release 4.11, the initial RTE type, when selecting "Change RTE", was changed from Ped1 to ModW. It was thought that the Modwheel was the most frequently edited controller since anyone with a Velocity Keyboard has the Modwheel permanently attached and at arm's reach, whereas pedals may not be connected.

It has since been pointed out that because Ped1 translates to MIDI Volume, it is probably the most frequently edited controller. Consequently, the initial RTE type has been changed back to Ped1.

2 new Defaults to make life easier

Two defaults have been set to reduce the number of steps a user must perform to play sound files "properly" after RTP initialization.

1. The RTP now initializes with the keyboard's multichannel output routing set to "Left=1 Right=2" rather than "Left=1 Right=1". Stereo sound files will now sound in stereo without requiring any user intervention.

2. When a sound file is called to the keyboard, either from the B-page or the R-page, the partial created to hold it now includes a final decay of 100 milliseconds to prevent that chopped-off sound on key-release. Again, no user intervention is needed. This should be especially handy when auditioning sounds - not to have to reach over, press the button and turn the knob each and every time a sound file is selected.

SKT of Track Partial retains keyboard parameters

When selectively recalling a partial or partials from a track's timbre to the keyboard's timbre (by holding partial buttons while executing an SKT), the track's parameters (routings, volume etc.) will no longer overwrite the keyboard's parameters.

The track's parameters will be copied to the keyboard only when the keyboard's timbre is entirely replaced with the track's timbre (i.e., SKT with no partial buttons held).

New PunchIn and Record safety feature

To avoid accidental erasure, the PUNCH and RECORD buttons will now be rendered inoperative if any parameter buttons are being held. (Some users complained it was too easy to nick PUNCH when meaning to do a Mark-Continue.)

Inverted RTE response changed

As you probably know, when an expression input, such as a pedal, is patched to a parameter, it can either control the parameter in the normal way (parameter button lit) or in an inverted fashion (parameter button blinking).

It has long been noted however that, despite what one might expect, the inverted response was not a mirror image of the normal response but had some unrelated shape to it. This dashed attempts to use controllers with their inversions to create graceful crossfades between partials, equally opposing pitch bends, and the like.

After some debate and arm-twisting, we decided to replace this pseudo-log inversion with a straight-forward linear inversion. (This is a somewhat risky break with the safe convention of maintaining backwards compatibility, in that an old sequence which utilized this feature won't sound exactly the same when played with release 4.12.

Whether it will sound different enough for anyone to notice remains to be seen.) In this instance, we felt it would be better to make the improvement as of this release than to further perpetuate an undesirable situation. (You may want to keep a pre-4.12 release handy just in case.)

Bug Fixes

New Track Sliding Algorithm

Release 4.11's new track sliding algorithm contained inadequate overflow checks. The result was that if the knob was turned far enough when doing justified sliding, tracks could slide by the wrong amount, in the wrong direction, and the notes could even disappear. Unfortunately this was not discovered during pre-release testing. This bug has been fixed.

Audible Click Anomalies Repaired

The introduction of the tempo-map capable sequencer with Release 2.7 brought with it the following two anomalies pertaining to the audible clicks. Both of these anomalies have been eliminated:

1. When backing up the sequencer to an even beat (by setting a justified mark before the current time and pressing play, or by using the G-page's Control-C feature on an even beat), the first click would sound but the second click would not.

2. Similarly when advancing the sequencer to an even beat (by setting a justified mark after the current time and pressing play, or with the G-page's Control-C feature), the first click would not sound.

Q-page Click On/Off status display fixed

On the Q-page "Sync Panel", the Click On/Off switch didn't correctly display the click's on/off status when it was toggled with the keyboard buttons (or by any other external means). This is now fixed.

Other Click Track related bugs corrected

The following Click Track related bugs have been fixed.

The entry and display of duration in the "or, enter a new Length for the region:" field of the S-page's Fit To Time panel gave incorrect results. This bug also appeared when using meter maps in which the denominator of the time signature changed.

The S-page's display of times or durations in Meas:Beats format was incorrect. Beats were shown in the Measures field, while the beats and millibeads field showed meaningless numbers. (Actually this was fixed in time for Release 4.11 but wasn't included in the documentation).

Jogging times in Meas:Beats format on the S-page or Q-page generated ludicrous results. (For those unfamiliar with the term "jogging", it refers to decrementing a time field by option-clicking on it, or incrementing a time field by command-clicking on it).

The S-page's "current time display" in the upper right corner didn't follow the click track. Nor did the Q-page's giant time display.

Clicking on the Take buttons on the S-page or Q-page frequently produced ludicrous (often negative) times. Grabbing the sequence time with the Continue button (for startloop) or by holding Mark, Insert or Delete while pressing Continue, also frequently resulted in outrageous time values.

When attempting to dial justified times for Mark Start, Loop Start, Loop End, Insert or Delete, meaningless times were obtained. Dialing justified lengths for Loops, Insert and Delete gave ludicrous results.

Setting a Mark Start by holding Mark while pressing a track button produced ludicrous results.

Creating a justified loop with the End Loop button either produced no loop at all or produced a loop with ludicrous time values.

CLICK TRACK BUGS FIXED (EXHIBITED PRIOR TO RELEASE 2.7)

Each time the sequencer was backed up, either by rewinding or by using the G-page's Control-C feature, the beat numbers displayed in the VK window were offset by -1. To clarify, after rewinding once to beat 5, the counter would display beat 4 and remain off by -1 as the sequence played. After rewinding a second time to beat 5, the counter would display beat 3 and remain off by -2, and so on.

If you backed up the sequencer by setting a justified Mark, you would hear an 80 millisecond click-flam when you pressed play the first time.

After the sequencer was advanced to a point between beats by Fast Forwarding and pressing Continue, a stray audible click was emitted the instant the sequencer continued.

Advancing the sequencer, either by setting a Mark and pressing Play, or by using the G-page's Control-C feature, resulted in a horrible burst of rapid-fire clicks.

If you set a Mark after the last note on the click track, the sequencer would hang for a while, then start at the time of the last note on the click track, but at the wrong tempo.

When creating a justified loop with the End Loop button, the endloop was placed one millisecond too soon. Note: If the loop you're creating will start at a certain time between beats, such as if you have a pickup note, the endloop will only be accurately placed if you press the End Loop button before that time

between any two beats. This is due to a current system limitation. If you have difficulty, you can always just type in the loop with the G-page or Q-page Event Editor Panel.

Recording of Real Time Effects bugs fixed

Several bugs have been fixed which caused the spurious recording of unused or unnecessary RTEs. Details follow:

A bug has been fixed which improperly initialized RTE values whenever the sequence was played with Mark Point off. A similar bug improperly initialized RTE values when an empty track was allocated for record. These caused a number of seemingly unrelated anomalies. Two notable ones are as follows:

1)When pressing record with Mark Point off, or when recording onto an empty track, the four monopolar RTE controllers (Ped1, Ped2, ModW, Brth) were recorded even though they were in their initial positions.

2)If you have a timbre with two partials who's volumes are both controlled by a monopolar controller, but one is controlled in the normal way while the other is controlled inversely, you won't hear it at all when played off a track until an applicable RTE occurs.

Users can once again control which RTEs are recorded and which are not. Any RTEs not used by the Timbre or by the MIDI settings will be ignored.

Sound File Offsets with Tempo Maps

It was recently noted that when using tempo maps, the sound file offset times reported on the G-page were not consistent with those reported on the Q-page's Event Editor Panel. (The Q-page's values were correct and the G-page's values were not.) This has now been repaired.

Dragging Memory Button time to Start Mark fixed

A rather aggravating S-page bug is now fixed! Dragging a time from one of the Memory Buttons to the Start Mark field now works as it should. (Before, the time would appear there but would not actually be stored in the Synclavier's Mark Start parameter. As soon as play was pressed, the previous Mark re-appeared.)

OPCOPY volume mounting bug fixed

After completing an Opcopy run, when inserting a new volume and running Opcopy again, the following message would frequently appear:

```
Could not mount volume: S$SenseKey = 6 Unit Attention
Status: SOURCE Drive is not ready;
```

Opcopy in 4.12 should correctly sense the Unit Attention status and retry without complaining.

Tuning problems with Sound Files using SFM Octave Base

It has been discovered that the tuning improvements implemented in release 4.11 have the potential in extremely rare circumstances to cause certain sound files placed in an old patch to sound a semitone sharp from what it did with pre-

4.11 software. Chances are you will never encounter this situation, but in case you do, a brief explanation and work-around is provided here.

This only occurs with sound files that were assigned an Octave Base with a pitch offset of 50 cents in SFM. Sound files that use SFM's Octave Base are already quite rare. Those that happen to be set to 50 cents are probably extremely rare.

Here's a description of what is happening. Suppose a sound file is given an Octave Base of 4.0050. Should this be interpreted as a C that's 50 cents sharp or a C# that's 50 cents flat? Pre-4.11 software did not utilize rounding when calculating frequencies, consequently such Octave Bases were always truncated down to the lower frequency and thus interpreted as the lower pitch that is 50 cents sharp. As of release 4.11, rounding was implemented, consequently some Octave Bases set at 50 cents will round up to the higher frequency and thus be interpreted as the higher pitch that is 50 cents flat.

Please be sure not to confuse SFM's Octave Base with the Tuning offset field on the I-page. This anomaly does not occur with sound files given a tuning offset of 50 cents on the I-page.

If you should ever encounter this situation, keep in mind that it's not a bug but a circumstance of the improved tuning accuracy, and that you should simply increment the transpose key in the patch and resave it.

Reverse Compiler vrs. Locate point bug fixed

When reverse compiling a sequence which had a locate point saved, or which had a locate caption or sequence caption entered, the output file contained a bogus Notelist for Track 248 with a Track Volume of 1644.8. This prevented the file from re-compiling.

Tutorial - Programming "Swing" quantization

Many customers have asked for an easy way to justify shuffling rhythms, etc. The click track feature provides an intuitive and straight-forward way for users to set up any quantization pattern - even patterns that change from section to section. (In fact, this was the primary reason a priority was set for reinstating the click track feature.)

For example, one might set up a "shuffled" quantization grid like so:

```
----Track 32----  
1.000 Loop Start  
1.000 a3 0.000  
1.300 a3 0.000  
1.500 a3 0.000  
1.800 a3 0.000  
2.000 Loop End
```

- Set Live Click to track 32. (Hold click, press track 32 once, release click.)
- Set the Click Rate Multiplier to 1.
- Justify the desired track(s)*. (All justified notes will move toward the grid notes on track 32.)
- Revert to Internal Click when done. (Hold click, press track 32 once, release click.)

* While the click track is activated, the audible click will "play" the notes on that track, which can be very distracting during performance. Consequently, it's probably best to record your performance using the internal click with justify off, then justify retroactively using the S-page.

If desired, you can construct a quantization grid that changes from section to section by using the chain feature (or the S-page's unwrap loops feature).

Another similar application of the click track feature is to "tighten" accompanying instruments to a Rubato performance (or to a ritard) by using the track containing the Rubato performance as the click track when justifying.

EditView™

Significantly enhanced Cue Sheet printing via MixMap™

See MixMap™ documentation in separate file. The version of MixMap™ included with this installation is designed to work only with EditView. If you wish to use MixMap™ with other hardware/software platforms contact DEMAS, Inc. to purchase a multi-platform version or download a demo copy from our website at www.synclavier.com.

More drawing bugs fixed

Additional fixes have been made in the endless battle to clean up the EditView window.

Fixed bug causing track solos to get stuck on

Previously, if an operator clicked near the global Solo button the system would, in fact, try to solo track '-1'. Problems resulted from the system believing a non-existent track was soloed when the operator had no way of knowing this.

Fixed bug where scrubbing prevented further track sliding

In special cases, scrubbing a cue could render track sliding inoperative. This is no longer the case.

Several crash bugs fixed

Several bugs related to font inconsistencies have been fixed. Some of these led to crashing if several applications were open simultaneously.

AutoConform

Improved update time for many cues

InterChange™

Better handling of file aliases to remote file servers

Interchange™ now better handles access to disk images and files on remote servers.

Enjoy, and as always, let us know what we can do for you.

Cameron Jones