Gotharman's FuZion

Music WorkStation

Update 11.00

Update 11.80 New Features

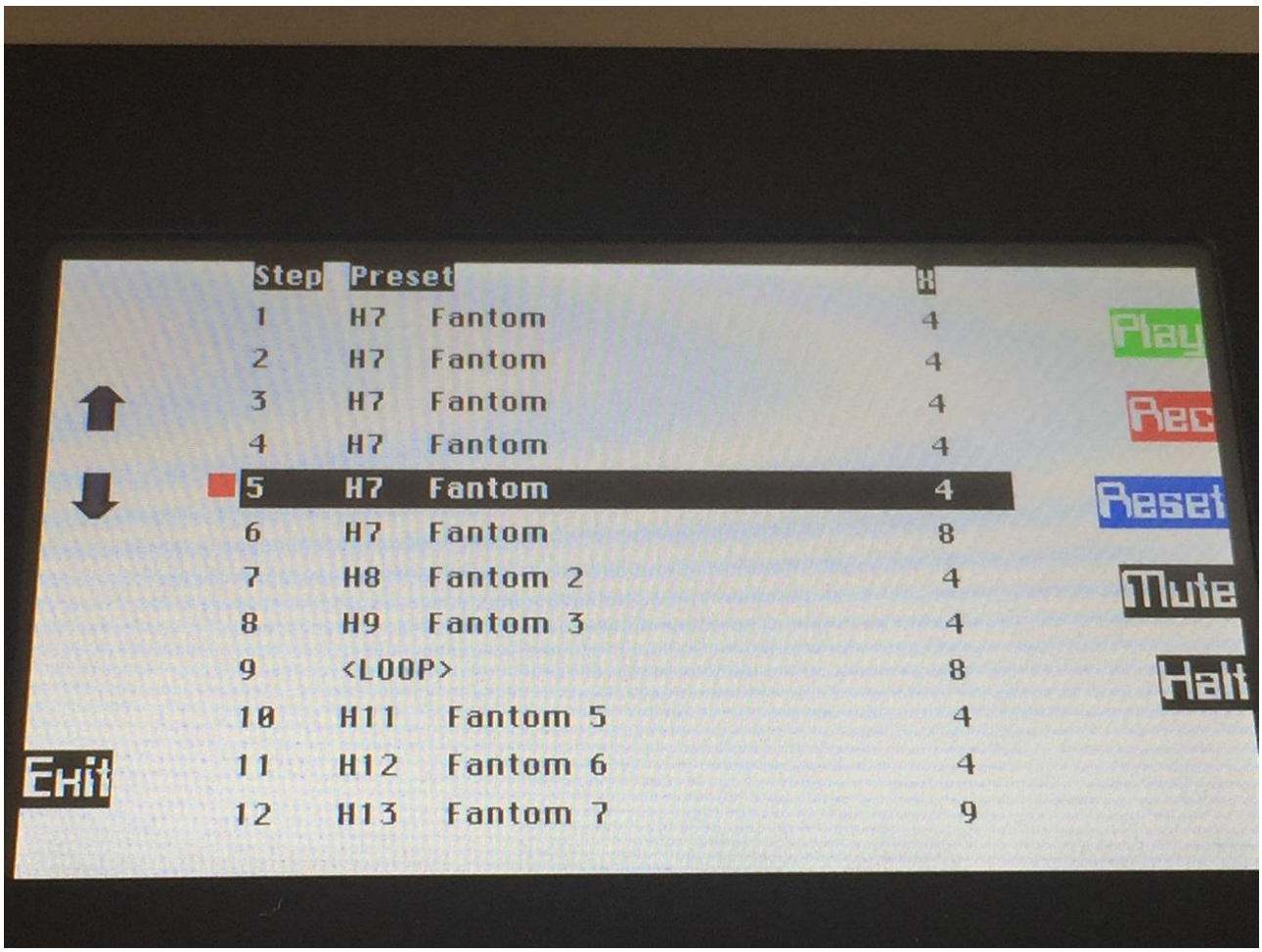
Song Mode

When the **Song Halt** function is released, Fuzion will now jump to the next song step, immediately when track 1 of the currently playing pattern loops, instead of letting the currently playing pattern play back the number of times it lacked, when the Halt function was activated. This makes it much easier to determine when it will jump to the next song step, and it is now also possible to let a pattern play back a less number of times, than it was programmed to, for even greater song live tweak control.

When a **Song** reaches its end step, it will now no longer reset to step 1. This will prevent the sounds, played back in the last song step, from being cutted off, when the song stops.

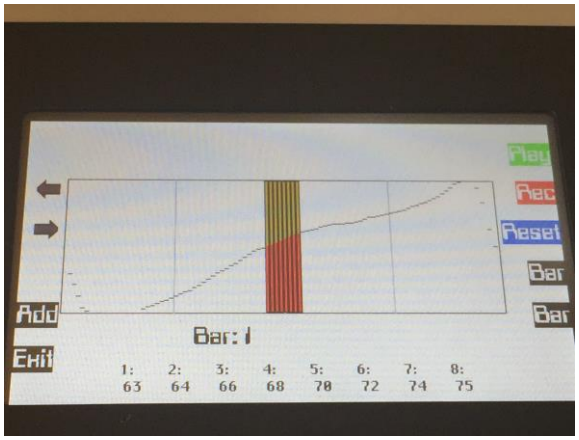
When a **Song is reset, or it reaches a Loop step,** it is now reset to the selected song step, instead of always step 1. This makes it possible to make only a portion of the song loop.

Song realtime recording will now also start from the currently selected song step, instead of always step 1.

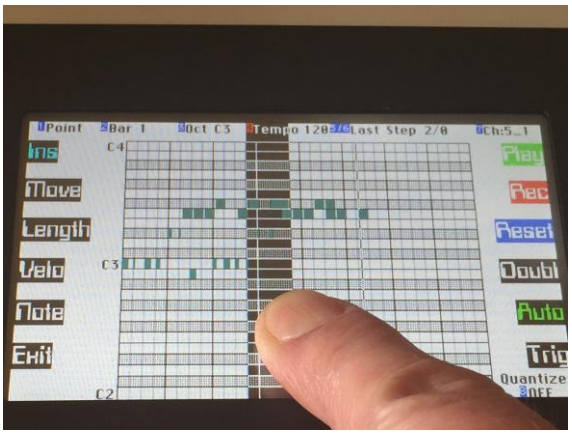


Sequencer

In the **Sequencer Ctrl Editor,** the 8 values, that are currently being edited, are now shown as numeric values in the bottom of the page, so it is easier to edit events like program changes.

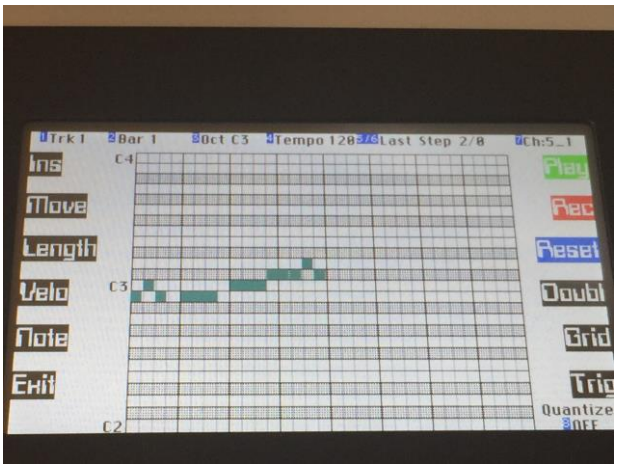


Sequencer "Ins" (step) recording does now also work with the Touch Keyboard and the Trigger button.



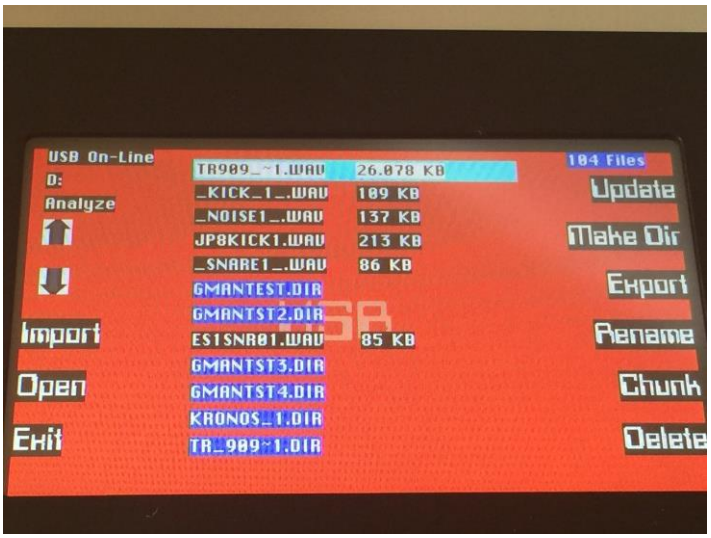
Doubl button has now been added to the Sequencer Note Grid Edit page. A push on this button, will copy all events from the selected track, that is located between the selected start and end points, to the selected end point and forward. It will also modify the track end point, so the track will play back in double length. This is useful, if you, for instance, would like to program some variations to a beat. It is also useful, if you would like to change the start step of a pattern, but still would like it to play the events before the new start step. Then just push the doubl button, to double its length, and adjust the endpoint, so it fits.

Unlike the “Copy” function, the Doubl function does not operate in whole bars. It will copy from any bar/step to any bar/step.



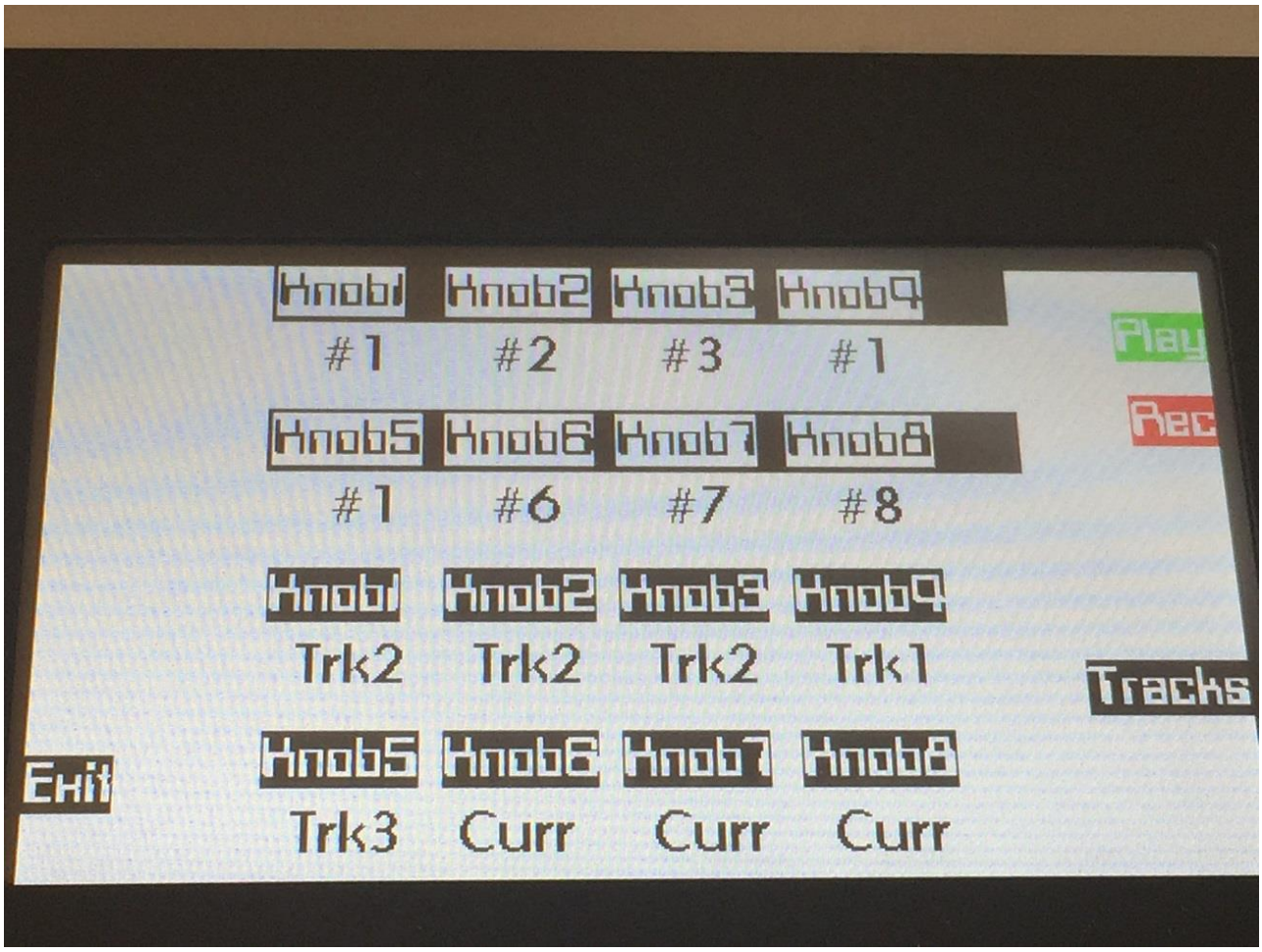
USB

Wav file import has been improved, so Fuzion will now accept a wider range 44.1 KHz/16 bit wav files, with manufacturer specific sub chunks. Some computer programs are generating wav files with non-standard chunks, that Fuzion previously did not recognize. Now it will.



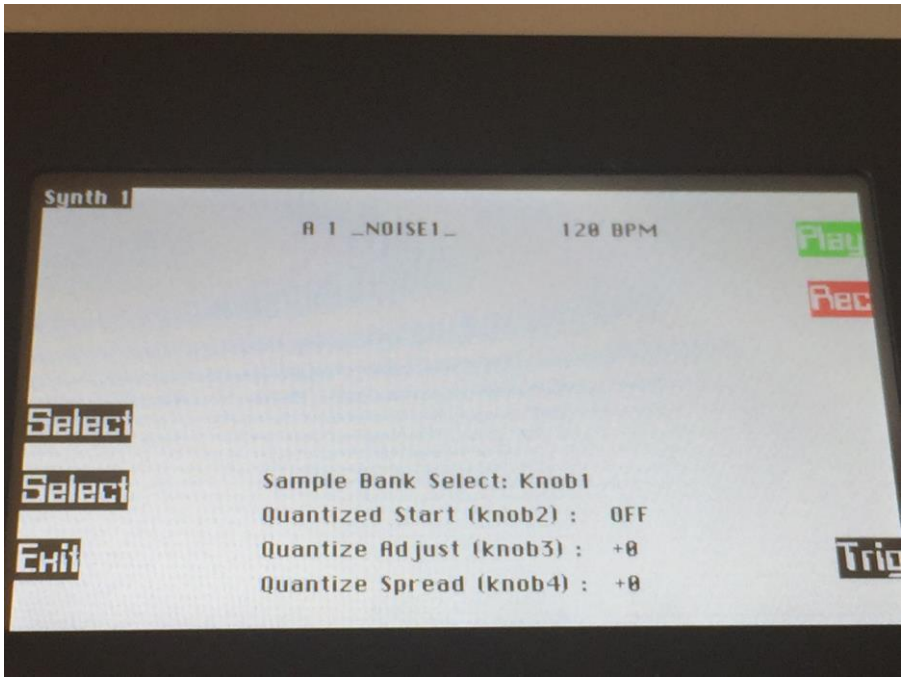
Knob CC’s

On the **Knob CC** page (More.. > Triggers > Knob CC), it is now possible to set each of the Edit Knobs to always transmit CC data to a specific track. After hitting the “Track” button, so its LED is lit, it is possible to select **Trk1 to Trk16** for each edit knob, or **Curr** (current), which will, as before this update, transmit CC’s to the currently selected track.



Synth Sample Select

“Sample Bank Select: Knob1” are now mentioned on the Synth Sample select page, to make it easier to figure out, how to change sample bank.



ReLoad

A Preset **ReLoad** function has now been added. If you have made some changes to a preset, and you would like to go back to the original settings, you can now reload the preset, by holding the Enter button, while pushing the lower Preset button, on the Preset Select page.

Sound Finder

Preset Select has now been added to the **Sound Finder,** for faster navigation.

Bug Fixes 11.80

When extra **Program Change** messages were inserted in the Sequencer Ctrl editor, the values of these were incorrect. This has now been fixed.

Instrument effects parameters are now being picked in the **Sound Finder.**

Update 11.58 New Features

Resonator and sub-oscillator added to synth waveform.

New Instrument Effects added. Besides from the FAT effect, each Synth can now have Chorus, Distortion, Bit Crusher, Pitch Shifter, Resonator, Stretcher and FM.

2 new Resonator Reverbs added to the Global Effects section.

Song Mode. It is now possible to record, edit and store 1024 songs.

Stereo Sampling added. Fuzion can now record samples in stereo, also when recording Audio Tracks, and play back imported stereo wav files in stereo.

Envelopes Offset added, so these can now work either around the zero point (as before) or only above the zero point (only add to the parameter they are modulating).

Insert pointer recording Auto Increment added, so it is possible to do traditional ”step” recording on Fuzion’s sequencer.

The start Bar/Step of each sequencer track can now be set, on a new ”Track Loop” page.

The 8 Edit Knobs now transmits MIDI CC’s.

Triggers can now be trigged over MIDI and be recorded.

Sample playback on the Sample Rec page, can now be stopped, using the new ”Stop” button, by selecting another sample, or by exit’ing the Sample Rec page.

When doing Grid or Ins recording, it will now automatically jump to the next bar or octave window, when the window limits are exceeded.

”All Notes Off” added to the Sequencer Function page.

Remix Quantize ”Spread” parameter added, for fine adjustment of the sample tempo.

MIDI input 2 are now fully functional.

When naming Presets, Songs, Samples and USB files, the character selection has now been spread out over a wider range, to make it easier to select a specific character.

MIDI inputs set up to handle the Roland JD-XA, which transmits the same data on several channels at the same time.

Bug Fixes

FLASH memory handling improved.
When more than 50% of the sample memory in any of the sample banks were used, it would sometimes cause Fuzion to malfunction. This is now fixed.

Sample delete improved.
When more than 50% of the sample memory in any of the sample banks were used, the sample delete system would also malfunction. This has now been fixed.

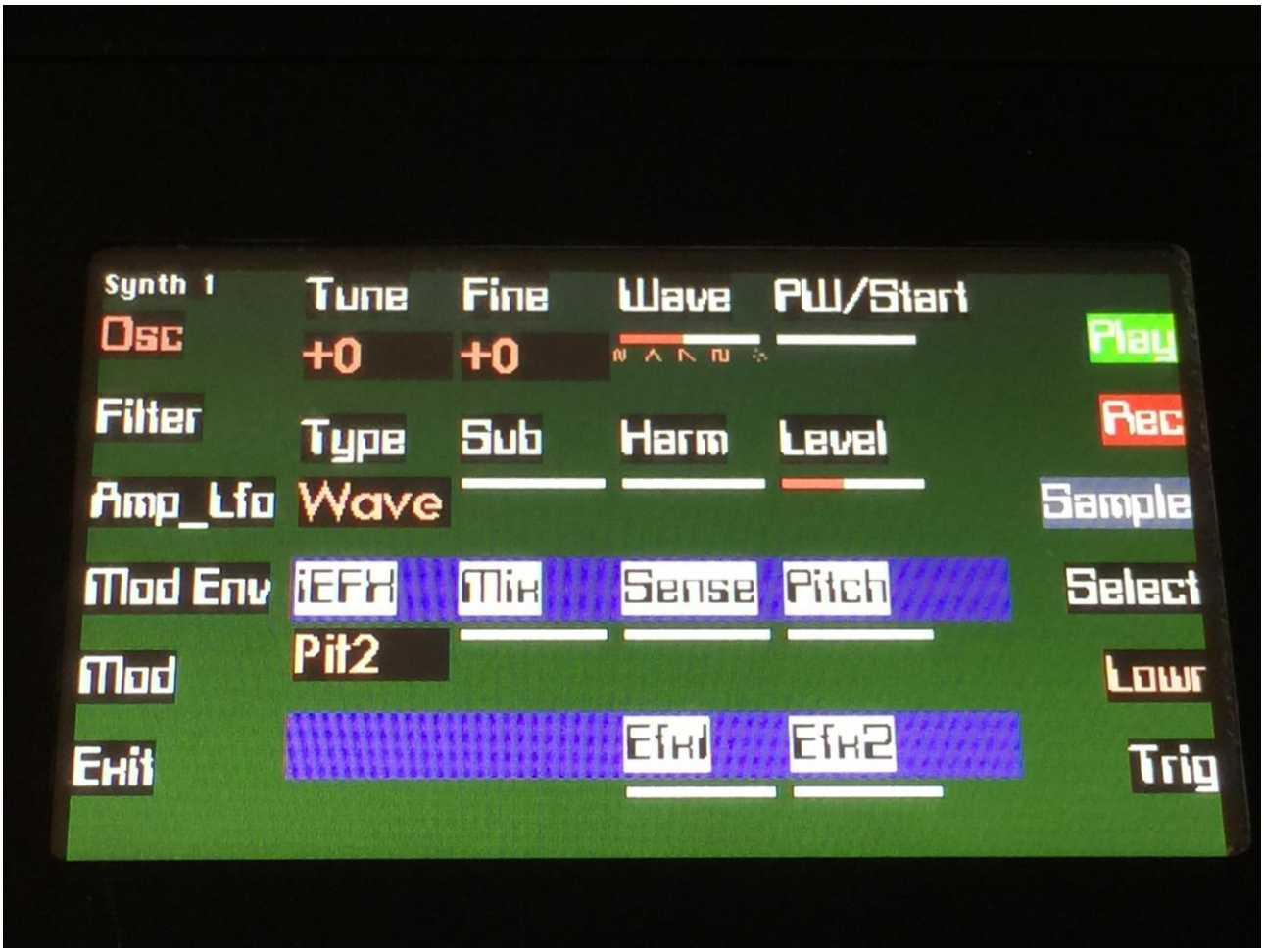
The right samplings will now play back in Poly Chain Mode.

Sequencer tracks Last Bar/Step are now correctly numbered.
Until this update, the numer of bars and steps to be played back were shown, not the last bar/step. This has now been corrected.

Preset and Song ”Init” are now de-activated right after a Preset or Song Save operation, to prevent accidential access.

Global effects 2, Granulator, Fine control now works.

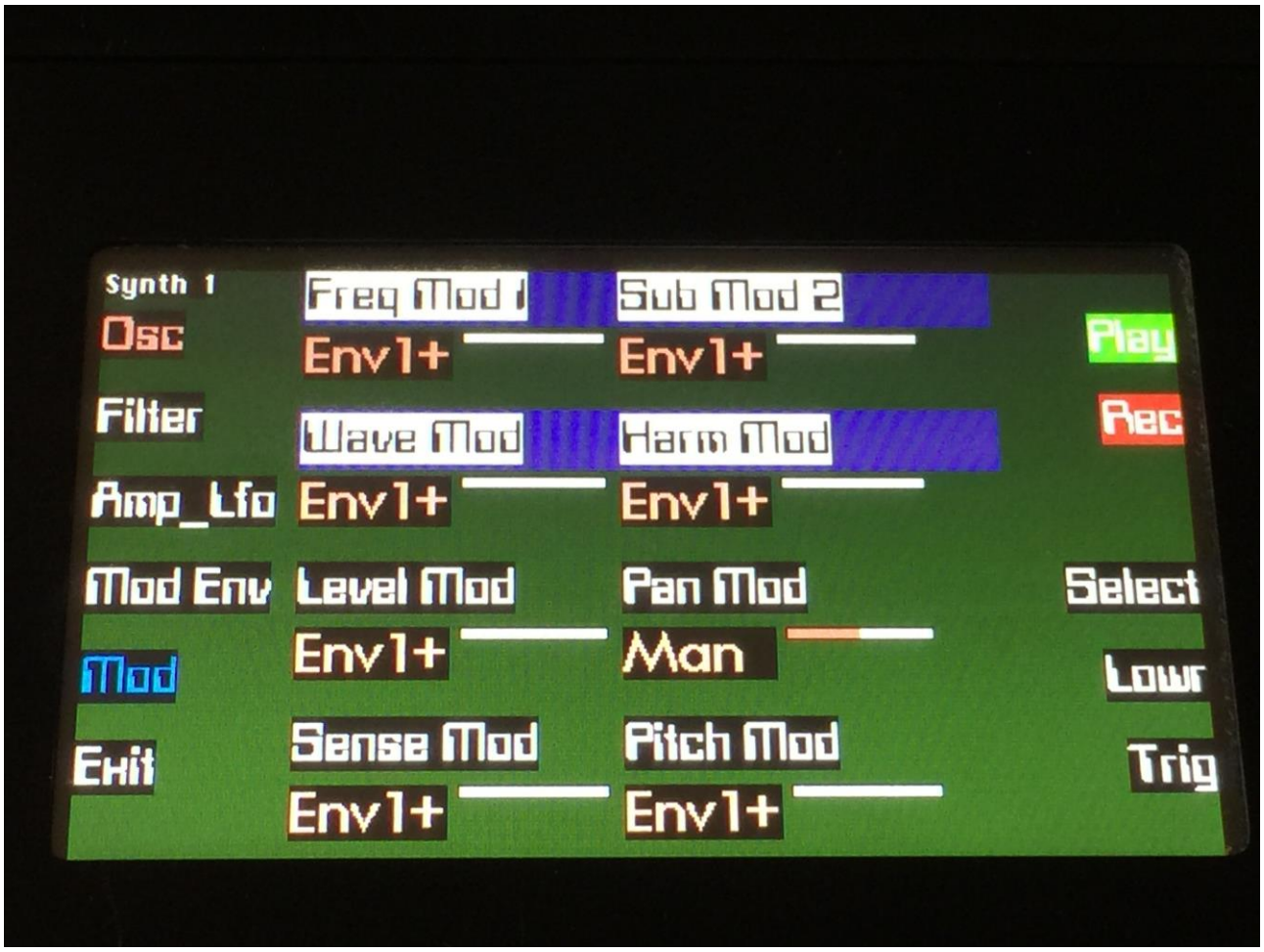
Resonator and sub-oscillator added to synth waveform



On the Synth Oscillator page, 2 new parameters has now been added, when Oscillator type is ”Wave”:

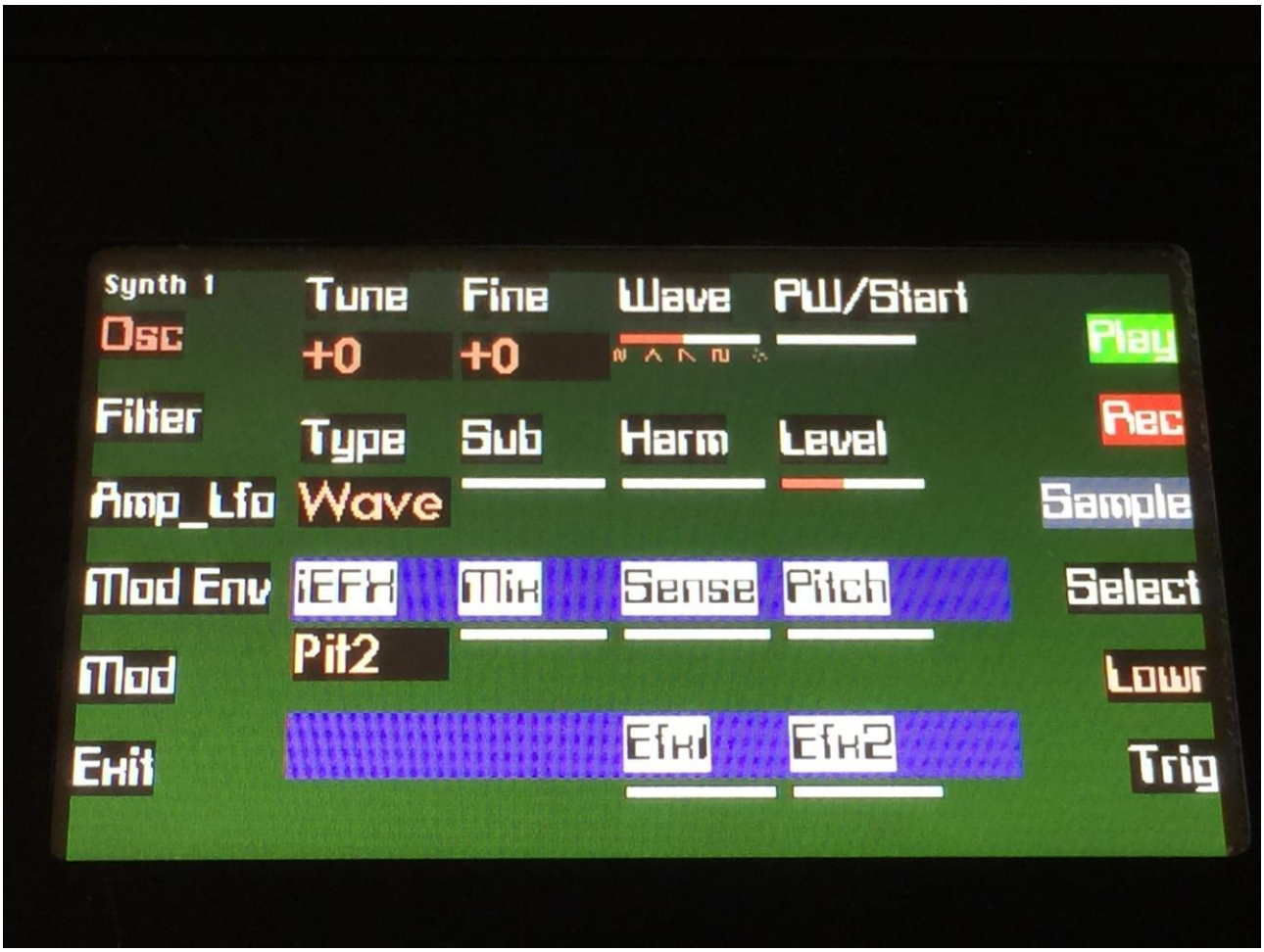
Sub: Sub Oscillator Level / Resonator harmonics. When the ”Harm” (Harmonic Resonator) parameter is turned fully down, this parameter acts as a sub oscillator level. When turned up, a square wave, one octave below the oscillator frequency, is added to the oscillator signal.
When the ”Harm” parameter is set to any other value than fully down, a resonator is added to the oscillator waveform, and this parameter controls the harmonic content of this.

Harm: Harmonic Resonator. When this parameter is set to any other value than fully down, a harmonic resonator is added to the oscillator waveform. At different settings, it resonates at different frequencies, and the ”Sub” parameter adjusts the harmonic content of this.



When the harmonic resonator is on, Freq Mod 2 is replaced by Sub Mod, to make it possible to modulate the harmonic contents of the resonator, and PW Mod is replaced by Harm Mod, to make it possible to modulate the resonator frequencies.

New Instrument Effects



For each of Fuzion's 8 Synths, it is now possible to select an instrument effect. Effects are selelcted, using the **"iEFX"** parameter.

The Instument effects, that can be individually selected for each Synth, are now:

FAT - FAT
Cho1 - Chorus1
Cho2 - Chorus2
Cho3 - Chorus3
Cho4 - Chorus4
Valv - Valve Distortion
Sine - Sine Distortion
Fuzz - Fuzz Distortion
Xdis - Xdis Distortion
Bit - Bit Reduction
Pit1 - Pitch Shifter 1
Pit2 - Pitch Shifter 2
Pit4 - Pitch Shifter 4
Res1 - Resonator 1
Res2 - Resonator 2
Res3 - Resonator 3
Stch – Stretcher
FM - FM

List of the instrument effects and their parameters

All parameters with an * can be modulated by Fuzion's Synth modulation sources.

FAT: Adds up to 4 layers of the sound to itself, and it is possible to adjust the phase of these, and to select whether the effect sound should be boosted or just layered. The input to this effect is taken from the synth's Amp output, so tweaking the filters will affect this effect.

Parameters:

FAT: Adds 0 to 4 layers of the input sound to itself.

Phase*: Adjusts the phase difference of the FAT layers. When turned fully down, all layers are in phase. The more it is turned up, the more the layers goes out of phase to each other. Useful for creating comb filter type sounds.

Boost: When this is on, the FAT layers are sonically added to each other, which will make the sound louder, and might cause it to saturate. If it is off, the sound stays at it's original sonic level, even when layers are added.

Chorus1: A one tap chorus with Deep parameter, 50% mix.

Parameters:

Feed: Chorus feedback amount.

Time*: Chorus Time. This should be modulated by an LFO, to get the traditional chorus effect.

Deep*: Adjusts how deep the chorus box should be. A Gotharman special.

Chorus2: A one tap chorus with Deep parameter, 100% mix.

Parameters:

Feed: Chorus feedback amount.

Time*: Chorus Time. This should be modulated by an LFO, to get the traditional chorus effect.

Deep*: Adjusts how deep the chorus box should be. A Gotharman special.

Chorus3: A two tap chorus with Deep parameter, 50% mix.

Parameters:

Feed: Chorus feedback amount.

Time*: Chorus Time. This should be modulated by an LFO, to get the traditional chorus effect.

Deep*: Adjusts how deep the chorus box should be. A Gotharman special.

Chorus4: A two tap chorus with Deep parameter, 100% mix.

Parameters:

Feed: Chorus feedback amount.

Time*: Chorus Time. This should be modulated by an LFO, to get the traditional chorus effect.

Deep*: Adjusts how deep the chorus box should be. A Gotharman special.

Valve Distortion: A digital simulation of a classic valve distortion.

Parameters:

Mix: The mix between the clean sound, and the sound with added distortion.

Drive*: The higher the value, the more the sound will distort. If this is set to zero, no sound will pass through the distortion.

Offs*: Distortion offset. The more this is turned up, the more unsymmetric the distortion will get.

Sine Distortion: A noisy and warm sine shaping distortion.

Parameters:

Mix: The mix between the clean sound, and the sound with added distortion.

Drive*: The higher the value, the more the sound will distort. If this is set to zero, no sound will pass through the distortion.

Offs*: Distortion offset. The more this is turned up, the more unsymmetric the distortion will get.

Fuzz Distortion: Simulates a classic fuzz distortion.

Parameters:

Mix: The mix between the clean sound, and the sound with added distortion.

Drive*: The higher the value, the more the sound will distort. If this is set to zero, no sound will pass through the distortion.

Offs*: Distortion offset. The more this is turned up, the more unsymmetric the distortion will get.

Xdis Distortion: Complete destruction of the sound.

Parameters:

Mix: The mix between the clean sound, and the sound with added distortion.

Drive*: The higher the value, the more the sound will distort. If this is set to zero, no sound will pass through the distortion.

Offs*: Distortion offset. The more this is turned up, the more unsymmetric the distortion will get.

Bit Reduction: Lowers the sample rate and the bit resolution of the sound, to obtain lo-fi effects.

Parameters:

BitR: Bit Reduction. The more this is turned up, the lower the bit resolution will get. When it is turned fully down, resolution is 16 bit, when turned fully up, it is 1 bit.

Rate*: Sample Rate Reduction. The more this is turned up, the lower the sample rate will be. From 44.1 KHz to 1 KHz.

Feed*: Feedback. Turning this up will slightly overdrive the sound.

Pitch Shifter 1: Changes the pitch of the sound up to 1 octave up or down, without changing the time resolution or "tempo" of the sound.

Parameters:

Mix: The mix between the original sound and the pitch shifted sound.

Sense*: Pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Pitch*: Smoothly pitches the sound from one octave below the original pitch, to one octave above.

Pitch Shifter 2: Changes the pitch of the sound up to 2 octaves up or down, without changing the time resolution or "tempo" of the sound.

Parameters:

Mix: The mix between the original sound and the pitch shifted sound.

Sense*: Pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Pitch*: Smoothly pitches the sound from two octaves below the original pitch, to two octaves above.

Pitch Shifter 4: Changes the pitch of the sound up to 4 octaves up or down, without changing the time resolution or "tempo" of the sound.

Parameters:

Mix: The mix between the original sound and the pitch shifted sound.

Sense*: Pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Pitch*: Smoothly pitches the sound from four octaves below the original pitch, to four octaves above.

Resonator 1: Simulates the resonances that comes, if a sound goes through a small box. Fuzions resonators are synthetic, with more focus on making sounds, than on simulating actual boxes.

Parameters:

Mix: The mix between the original sound and the resonated sound.

Feed*: Resonator feedback. The more this is turned up, the more it will resonate.

Size*: The size of the resonator box. Different sizes will give different resonance frequencies.

Resonator 2: Double Resonator. Simulates the resonances that comes, if a sound goes through a small box. Fuzions resonators are synthetic, with more focus on making sounds, than on simulating actual boxes.

Parameters:

Mix: The mix between the original sound and the resonated sound.

Feed*: Resonator feedback. The more this is turned up, the more it will resonate.

Size*: The size of the resonator box. Different sizes will give different resonance frequencies.

Resonator 3: Inversed Resonator. Simulates the resonances that comes, if a sound goes through a small box. Fuzions resonators are synthetic, with more focus on making sounds, than on simulating actual boxes.

Parameters:

Mix: The mix between the original sound and the resonated sound.

Feed*: Resonator feedback. The more this is turned up, the more it will resonate.

Size*: The size of the resonator box. Different sizes will give different resonance frequencies.

Stretcher: Tries to time stretch the input sound, while at the same time following it. Does this sound impossible? –It indeed is…

Parameters:

Mix: The mix between the original sound and the stretched sound.

Sense*: Stretch detection sense. At lower settings the sound will "wobble", at higher settings it will "granulate". Adjust this to obtain different effects.

Strch*: The degree of time stretch.

FM: Applies self-FM to the input sound.

Parameters:

Mix: The mix between the original sound and the FM'ed sound.

Sense*: FM pitch detection sense. On a pure waveform, turn this fully down to make sure, that it detects all the waves of it, and pitch shifts correctly. On more complex sounds, turn this up until the desired effect are obtained. At higher settings, only portions of the sound will be pitch shifted, and when it doesn't detect any pitch, it will repeat the portion it detected, making the sound "granulate".

Strch*: The degree of self-FM form 0 to +/- 4 octaves.

Resonator Reverbs

2 new effects has been added to the Global Effects section: Reso Reverb 1 and Reso Reverb 2. These reverbs are built using resonator stages, and has a quite different character, than Fuzion's other reverb.

Reso reverb 1 has a character a bit deeper than the normal reverb. Reso reverb 2 has a really deep and heavy character.

Parameters:

Level: The output level of the effect.

With "Lowr" selected:

Time: Reverb time. The total reverb time is a combination of time, timeX, feed and feedX.

Fine: Reverb time fine adjust.

Time X: Adjusts how much the following reverb taps will decrease in time. Lower settings is good for a short reverb, and higher settings for a long reverb.

Size: A granular parameter. The more this is turned up, the less space of the reverb box is used, causing some echo's to repeat, and others not to sound at all.

Feed: Reverb feedback.

Feed X: Adjusts how much the following reverb taps will decrease in feedback. Lower settings gives a delay effect. As this is turned up, it goes over in a metallic reverb type, and at higher settings it gives a more full reverb.

Dir: Reverb playback direction:
-Fwd : Forwards.
-Bwd : Backwards

Song Mode

It is now possible to arrange Presets in 1024 Songs.

Each Song can have up to 128 steps. For each Song step a Preset can be selected, it can be adjusted how many times track one of the preset should play back, until it advances to the next song step, and it is possible to mute/unmute the preset tracks.

If the last step of the Song is set to ”End”, playback will stop, when the Song has played back the last preset. If the last step of a Song is set to ”Loop”, it will jump back to step 1, and continue playback, after the last preset has played.

Songs can be realtime recorded, simply by hitting the ”Rec” and the ”Play” button, select the presets you want in your song, amd mute/unmute sequencer tracks.

Songs can also be recorded/edited by putting values like Preset number, number of times to play back, and track mutes/unmutes into a list.

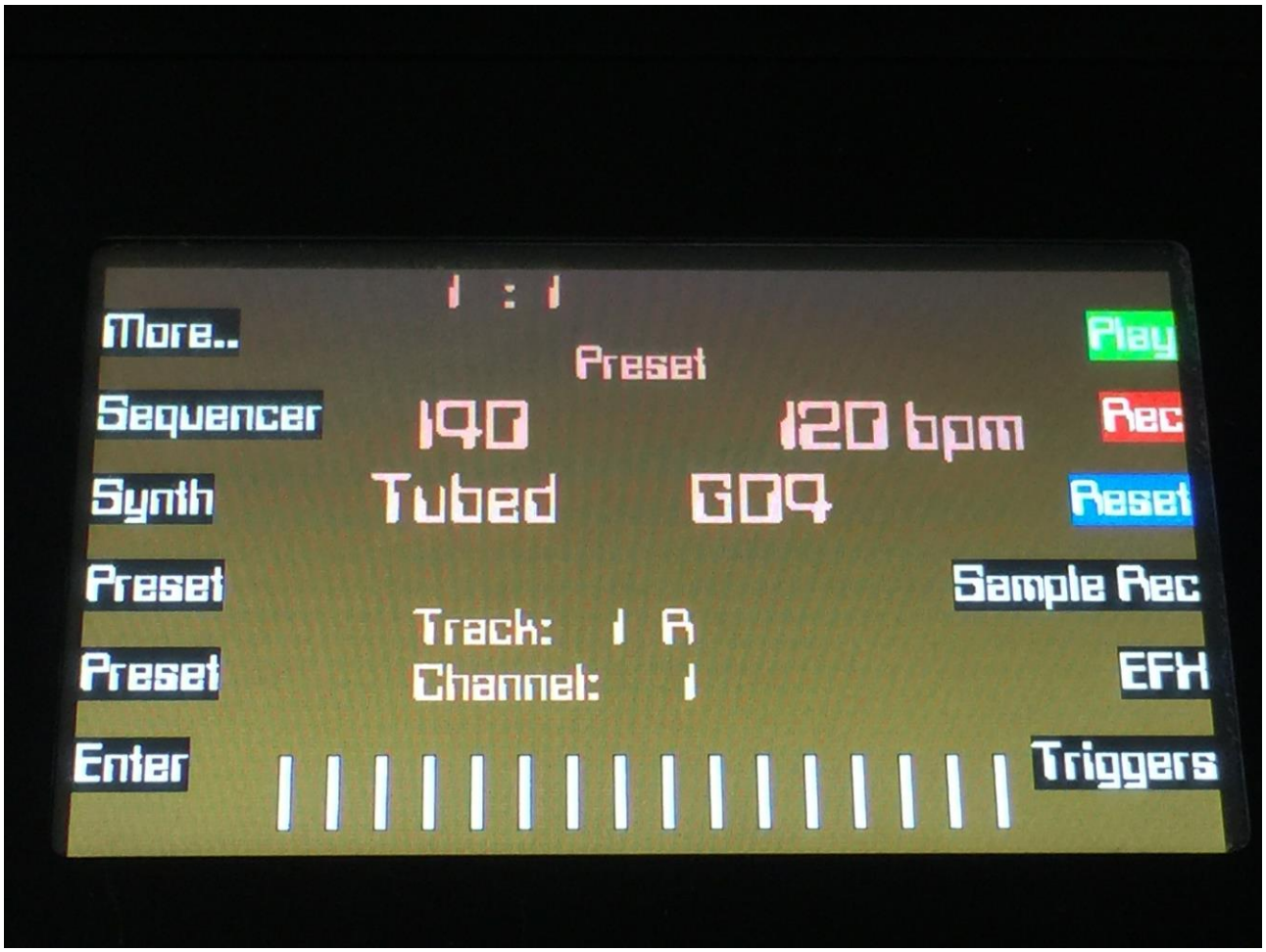
Any presets can be used in any songs.

If you , for some reason, needs a preset to play back more times than it is programmed to, the Fuzion song mode has a ”Halt” button, which will stop the song sequencer from incrementing to the next song step, and keep playing back the currently playing preset, until Halt is switched off again.

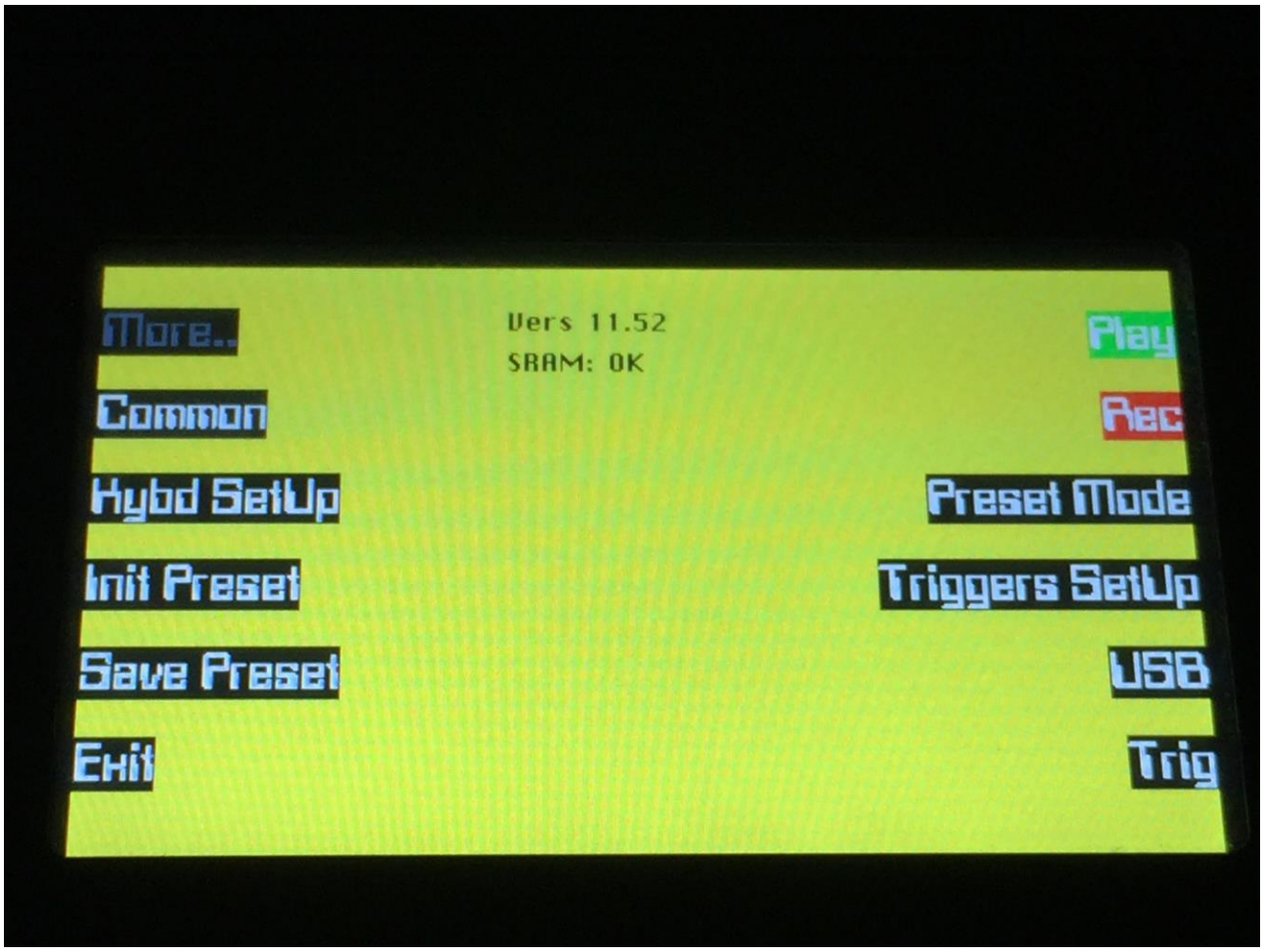
In song mode you still have access to edit all preset parameters in the currently playing preset, but you can’t immediately save any changes you make, since in song mode, you can only save the song. Here the ”Halt” button comes in handy again. To save the changes you have made to a preset, hit the Halt button, so its LED is lit, stop the sequencer playback and go back to preset mode. The halted and edited preset will now show, and you can save the changes.

Accessing Song Mode

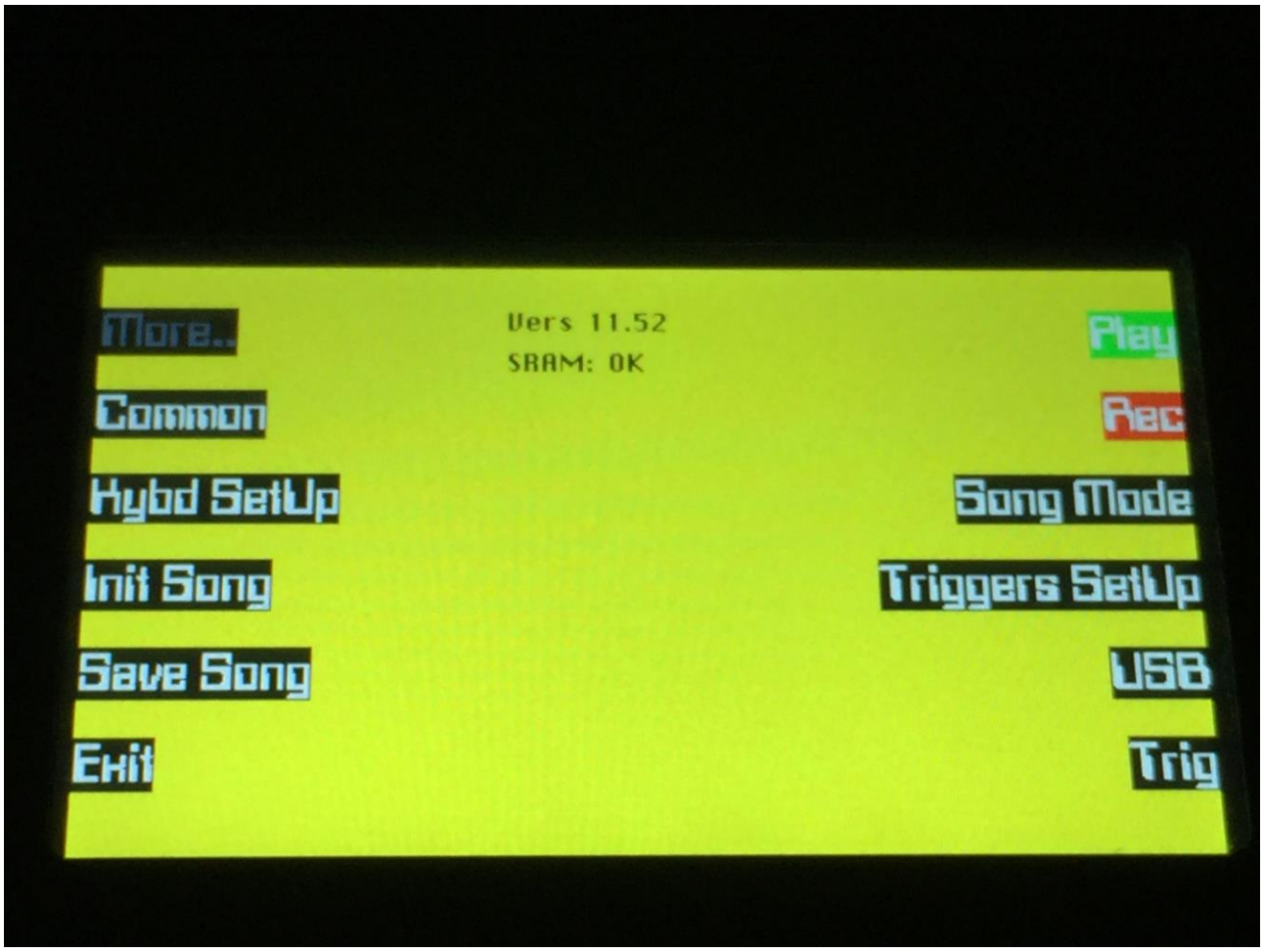
If you would like to make a new song from scratch, it can be a good idea to select the preset you would like to have on the first song step, from the preset select page, before you enters song mode. This is not something you have to do, I have just experienced, when testing this, that it makes things a bit easier. When you select a non-recorded empty song, the last selected preset will automatically be placed on song step 1.



From the Preset Select page, hit the ”More..” button.



Here you will, in the right row, find a button that says ”Preset Mode”. Please hit this, after making sure, that the sequencer is stopped.



Now, the exact same button, will miraculously change its name to ”Song Mode”.

As you might have noticed, ”Init Preset” and ”Save Preset” also has changed their names to ”Init Song” and ”Save Song”. We will get back to these functions later. For now, just hit the Exit button, to go to the Song Select page.

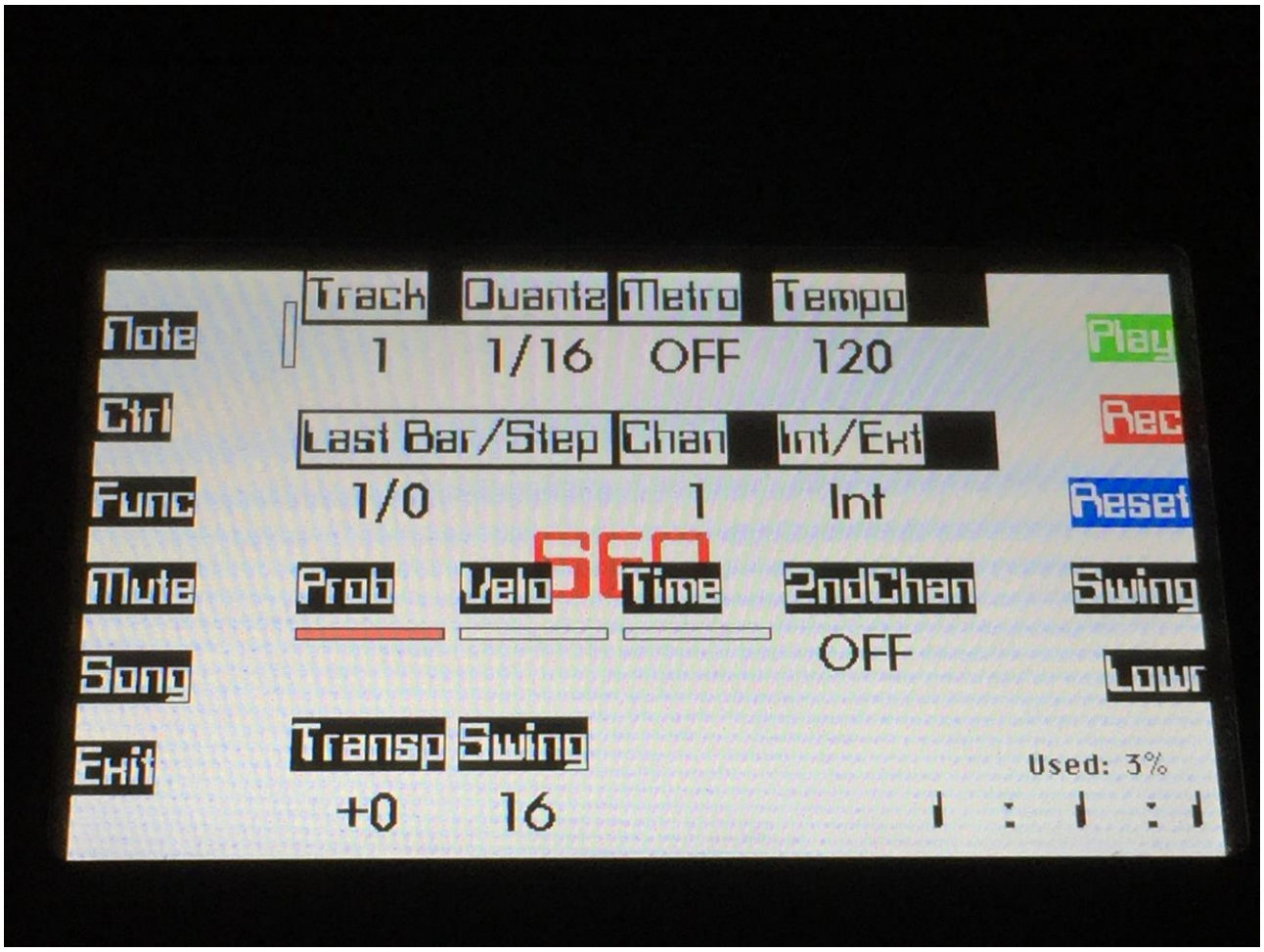
On the Song Select page, it reads out ”Song” in the upper part of the display, instead of the ”Preset” that it reads out on the Preset Select page, to make sure that you know where you are.

On the top of the Song Select page, you might have noticed, that the sequencer position ruler has gained an extra digit. The first digit of this now shows the song step number, that is currently being played back. The 2 other digits is still showing the bar and the beat of the preset, that is currently playing back.

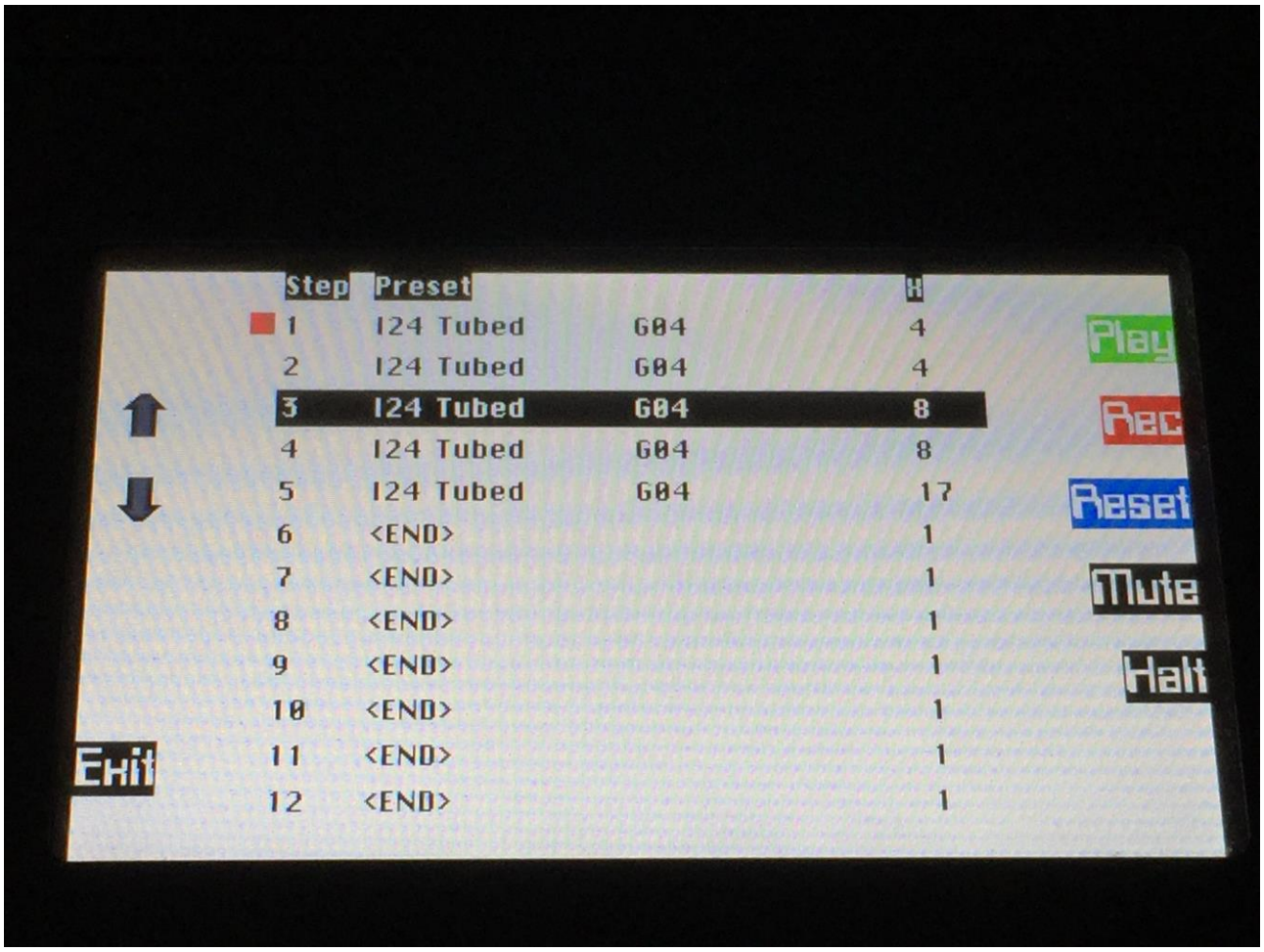
Other changes to this, compared to the Preset Select page, are that the 2 buttons that was used to select preset with, now has been renamed to Song, and is used to select song with. It is only possible to select another song, while the sequencer is stopped.

The selected sequencer track and its status are not shown on the Song Select page, since it is not possible to record sequencer tracks in song mode anyway.

Besides from these changes, everything is the same as in preset mode. You can still edit the sequences, the synths and the effects of the currently playing preset, but to save any preset changes, you will need to use the special ”Halt” mode, as explained later.



When in song mode, an extra button called ”Song” will show on the Sequencer Main page. Hitting this, will get you to the Song Edit page.



On the Song Edit page, you have an overview of the programmed song steps, and the possibility of editing these.

By hitting the 2 arrow buttons, you can select a song step for editing. The selected step is shown, by a black marking around it. The little square on the left, is showing what song step is currently being played back.

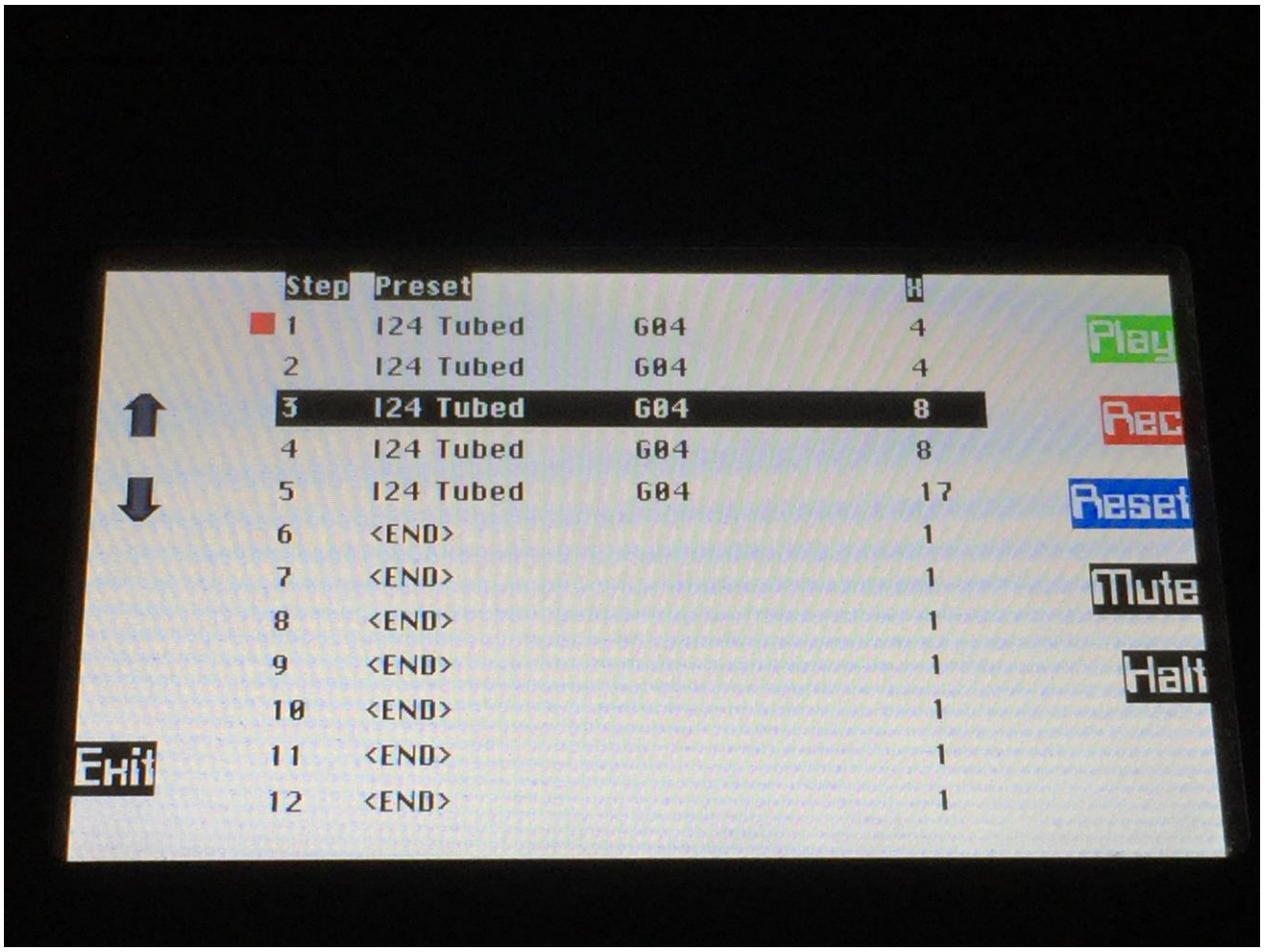
For each song step, the song step number is shown, the preset number and name, and the number of times track 1 will play back (under the X).

To edit a song step, use edit knob 1 to select <End>, preset bank A to P, or <Loop>. <End> will make song playback stop, when it reaches that step, <Loop> will make it jump back to song step 1, and start all over again.

Use edit knob 2 to select the preset number, and edit knob 3 to select the number of times, you want track 1 to play back.

To edit the mute/unmute settings for each track of the currently selected song step, hit the Mute button.

The button LED’s will show for each track, if the track is unmuted (LED is lit) or muted (LED is unlit). Hit the respective track buttons to mute/unmute a track. Hit the 1-8 button, to go to the settings for track 9 to 16.



On the right row of buttons on the Song Edit page, you will find the Halt button.

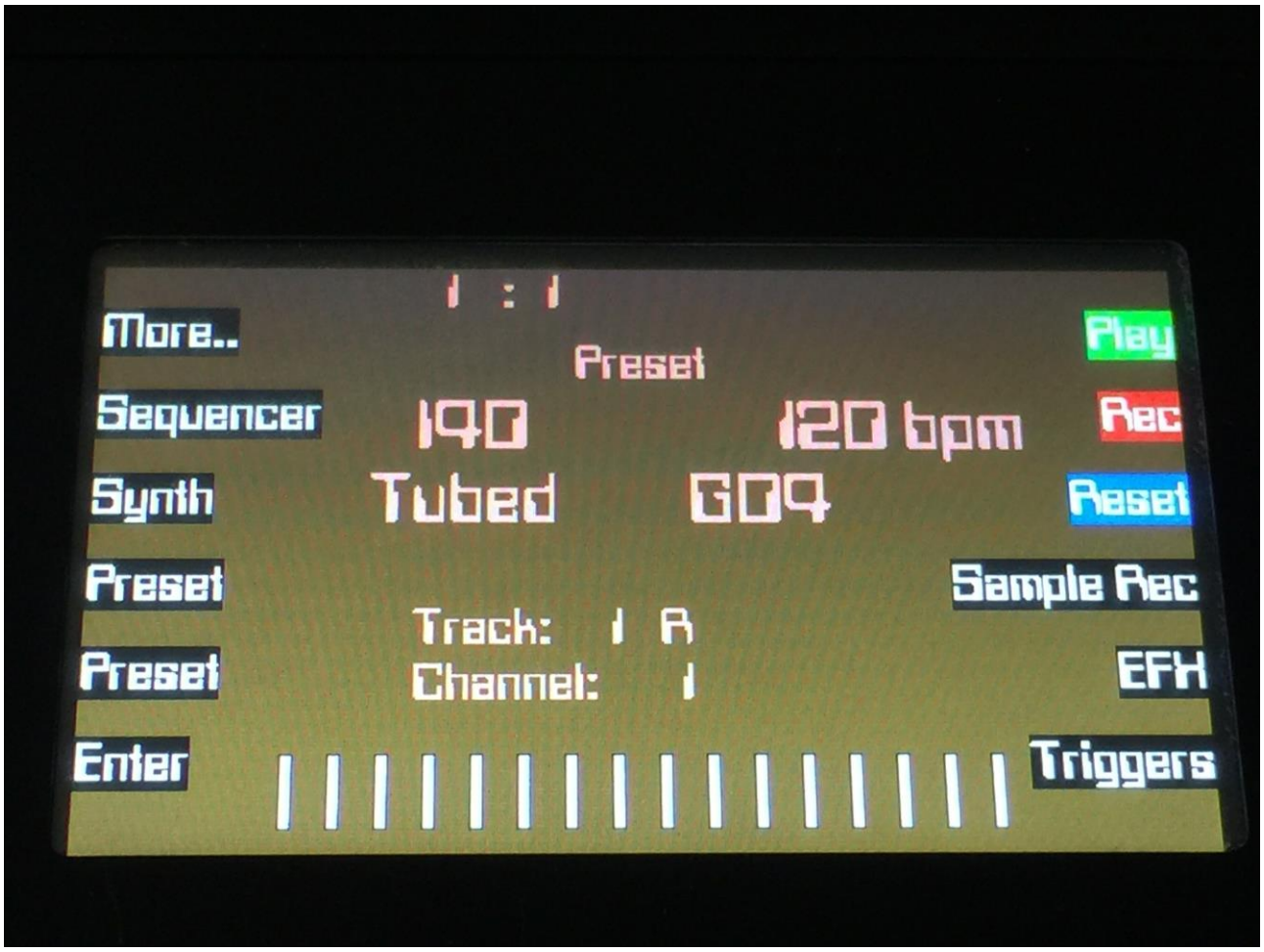
If you would like a preset to play back longer than the programmed number of times, hit this so the button LED is lit, and the currently playing preset will keep playing back, until you hit the Halt button again, so its LED is unlit. Then the Song sequencer will continue with the following song steps.

Also, if you have made any changes to the currently playing preset, that you would like to keep, go to this page, hit the Halt button, and stop the sequencer playback.
Now go back to Preset mode, and save the preset.

Song Realtime Recording

On the Song Select page, push any of the 2 Song buttons, to select the song you would like to record. 1024 songs are available, from A00 to P64.

Now push the Rec button.



Fuzion will now jump to the Preset select page, with the Rec LED lit.

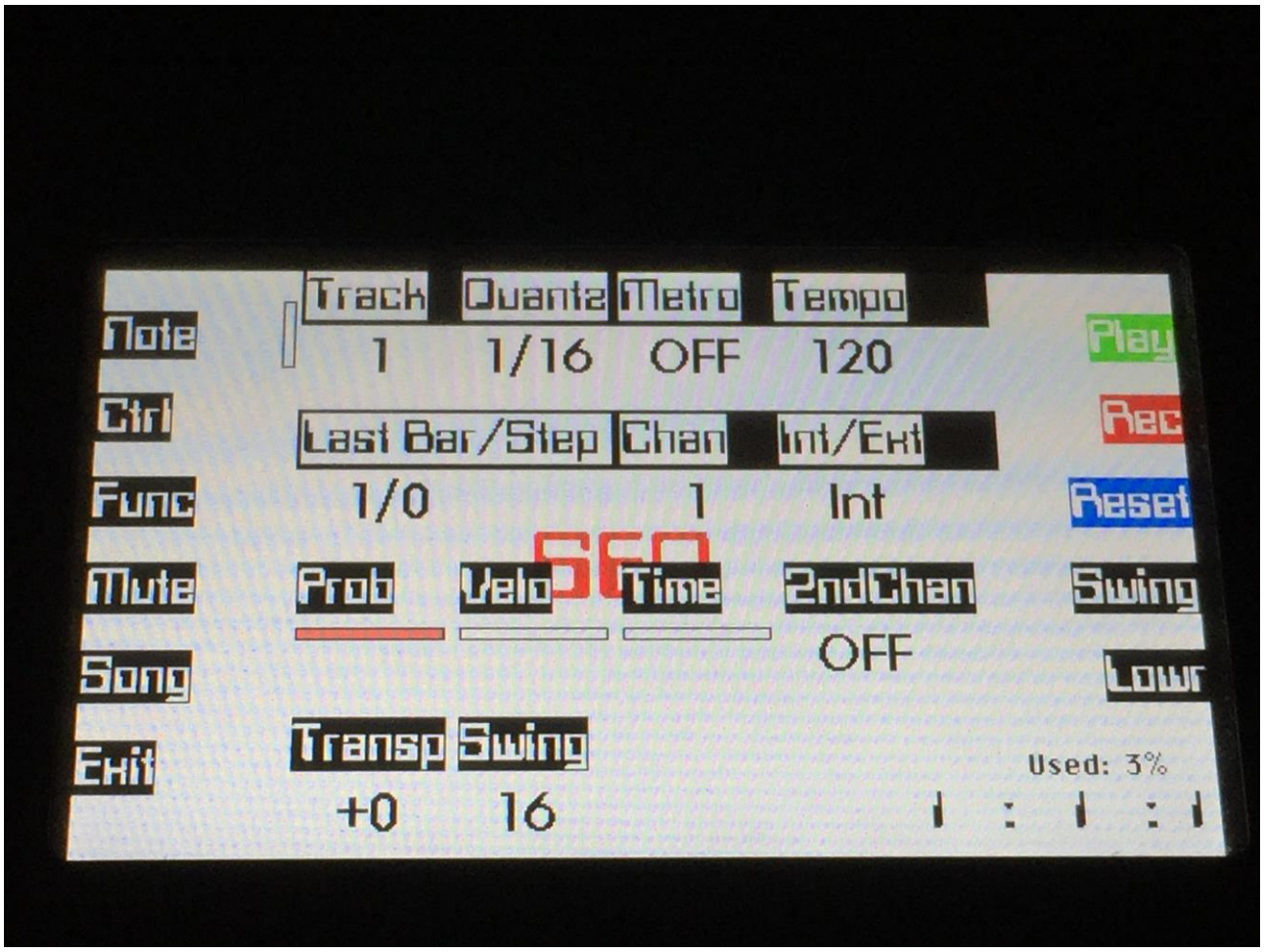
If you selected an empty song, the last preset you selected, before you jumped to song mode, will be shown. If you selected a song that was already recorded, the preset on the first step of this song will be shown.

Now, if the shown preset are the preset you would like to have on the first step of your song, you can proceed recording your song, by pressing the Play button.

If you would like another preset on the first step of your song, please select this, using the preset select buttons.

If there are any tracks you would like to mute on the first step, you should mute these, before you hit the Play button.

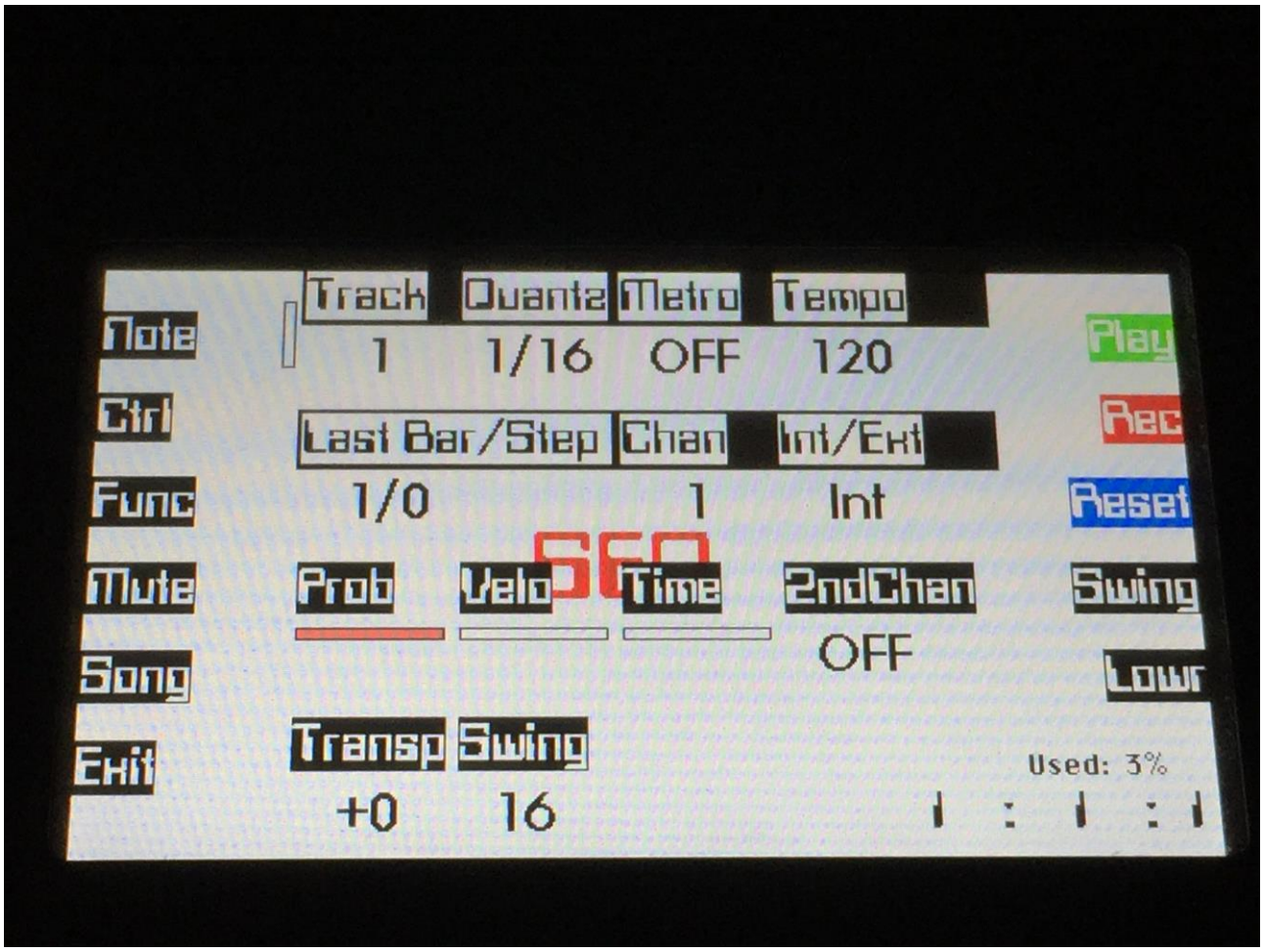
To mute some tracks, first hit the Sequencer button, to enter the Sequencer Main page.



From the Sequencer Main page, hit the Mute button, to enter the track mute page.

Push the respective buttons, for the tracks that you would like to mute, so their LED’s are unlit.

Hit the Exit button, to return to the Sequencer Main page.



Push the Play button, to start the song realtime recording.

The preset you have selected will now start to play back, with the tracks that you have muted, being muted.

From here you can now either go back to the mute page, if you would like to switch track on and off in your song, or you can exit back to the Preset select screen, to select other presets.

Track on/off changes and preset changes will only be registrered and recorded, when track 1 in the currently playing preset reaches its end and starts over. When the changes has been registrered, the song step number in the position ruler will increment by one.

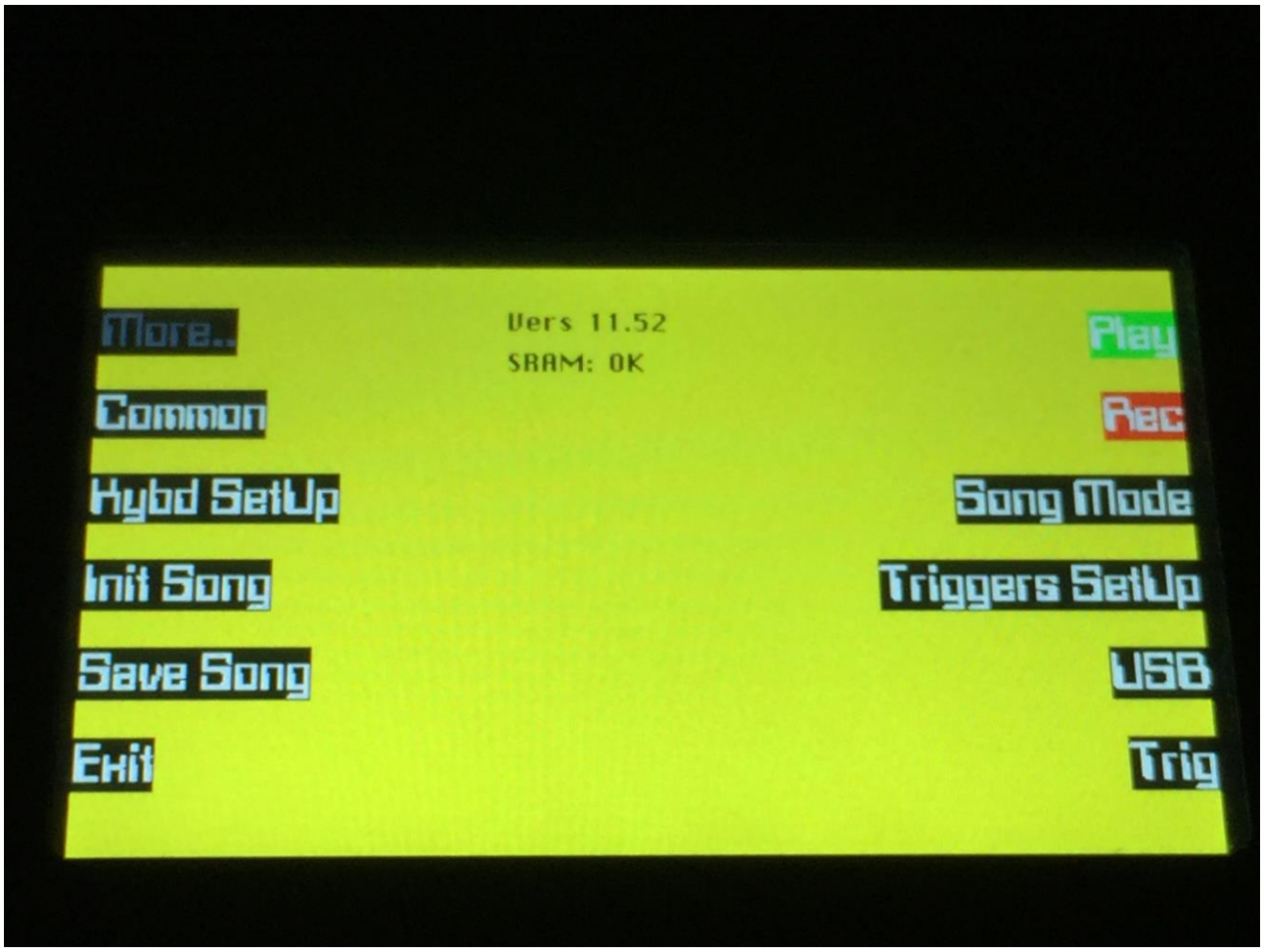
When you are done changing preset and switching tracks on and off, and you think that your song is ready, hit the Play or the Rec button, to stop song recording.

If you were on the Preset Select page, you will be taken to the Song Select page.

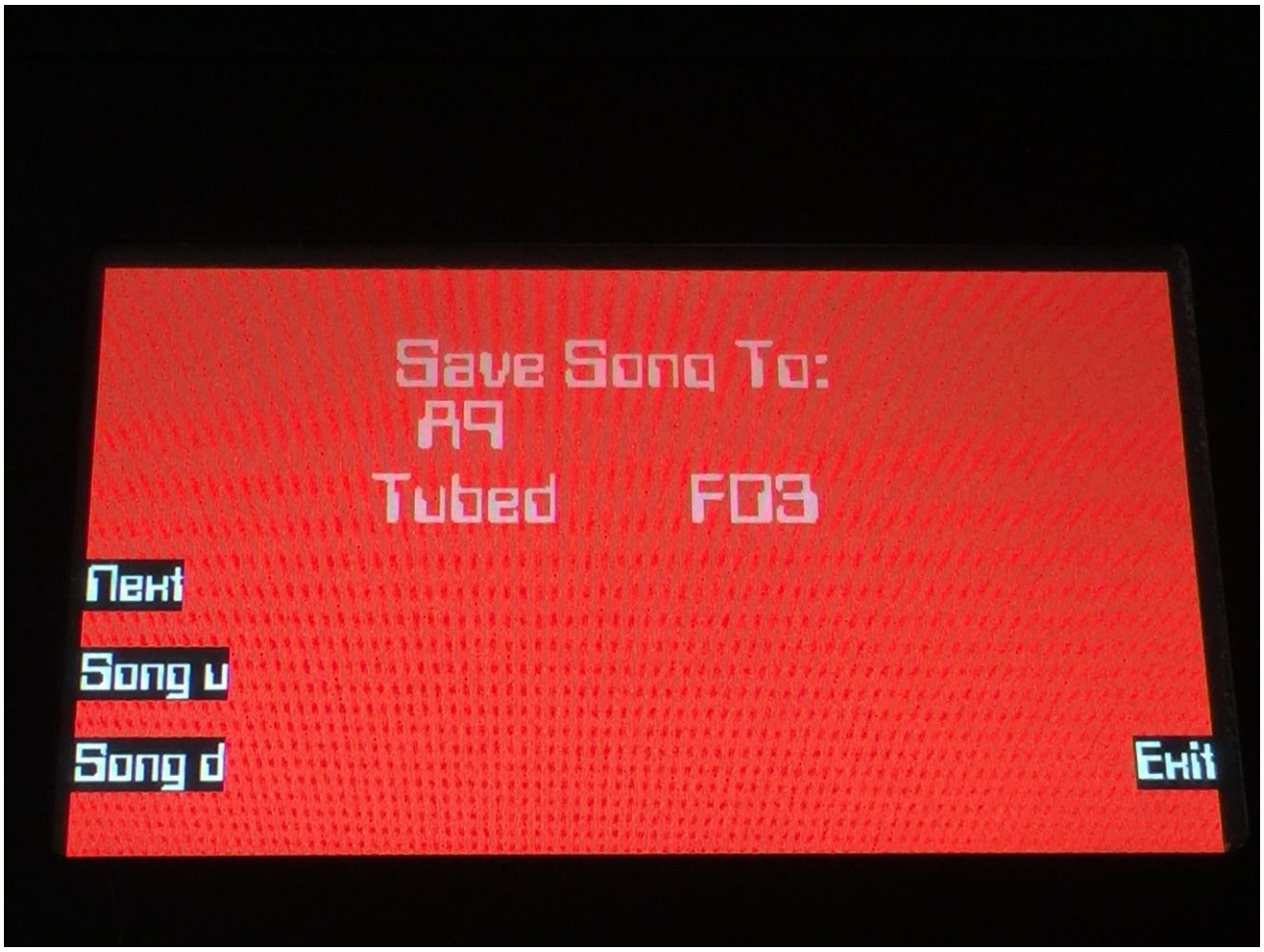
To listen to the song you have just created, first hit the Reset button and then the Play button.

If there are anything you would like to edit, go to the Song Step Edit page, as described earlier.

If you would like to keep your work, you should save your new song. To do this, push the More.. button.

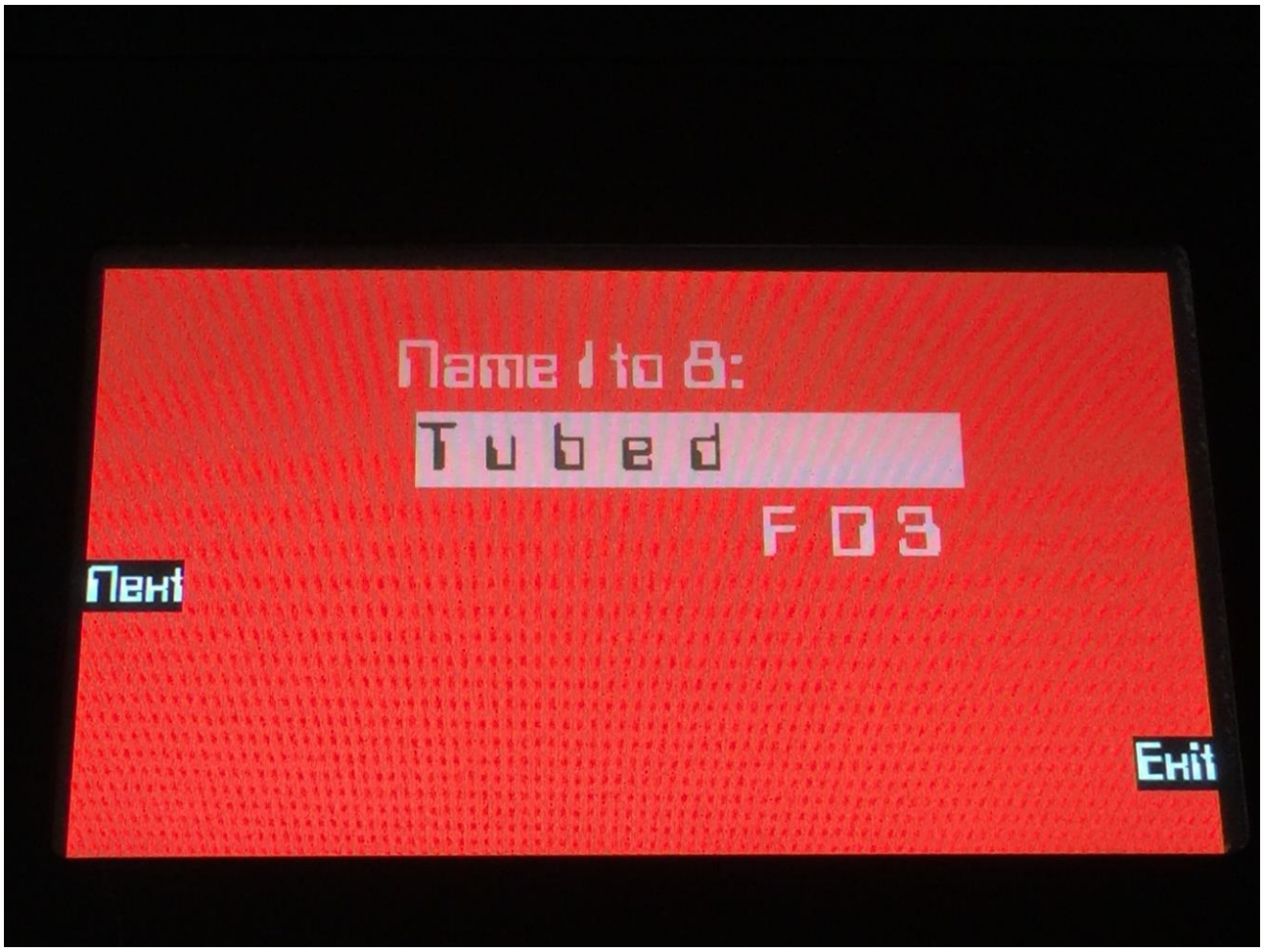


From the More.. page, push the Save Song button.



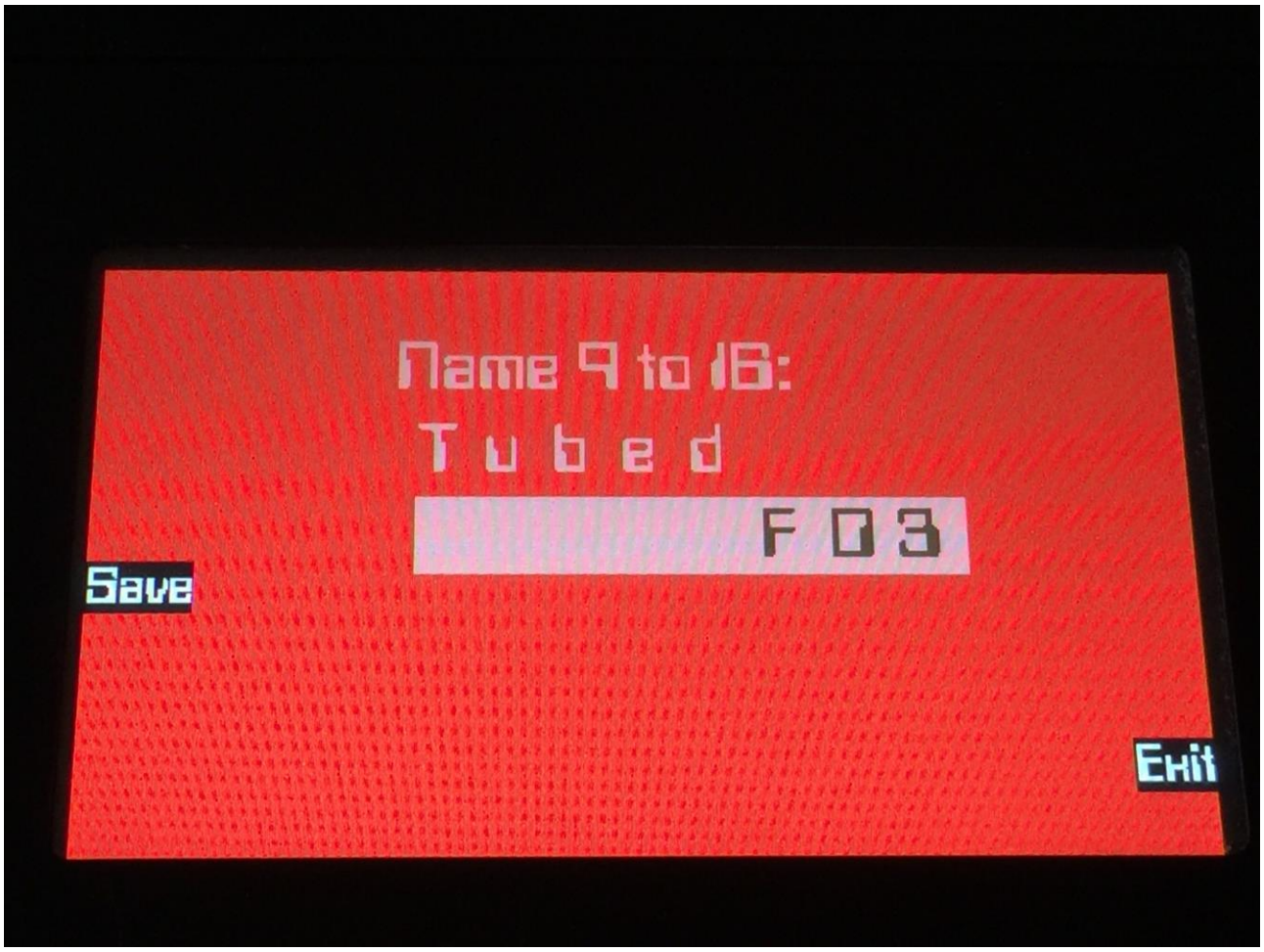
Push the Song u/Song d buttons to select the song location, on which you would like to save your song. If a song is previously saved on the locations you choose, its name will be shown. If no song is previously saved, <empty> will be shown.

Push the next button to continue.



Select the first 8 characters of the name for your song, using edit knob 1 to 8.

Push the next button to continue.



Select the last 8 characters of the name for your song, using edit knob 1 to 8.

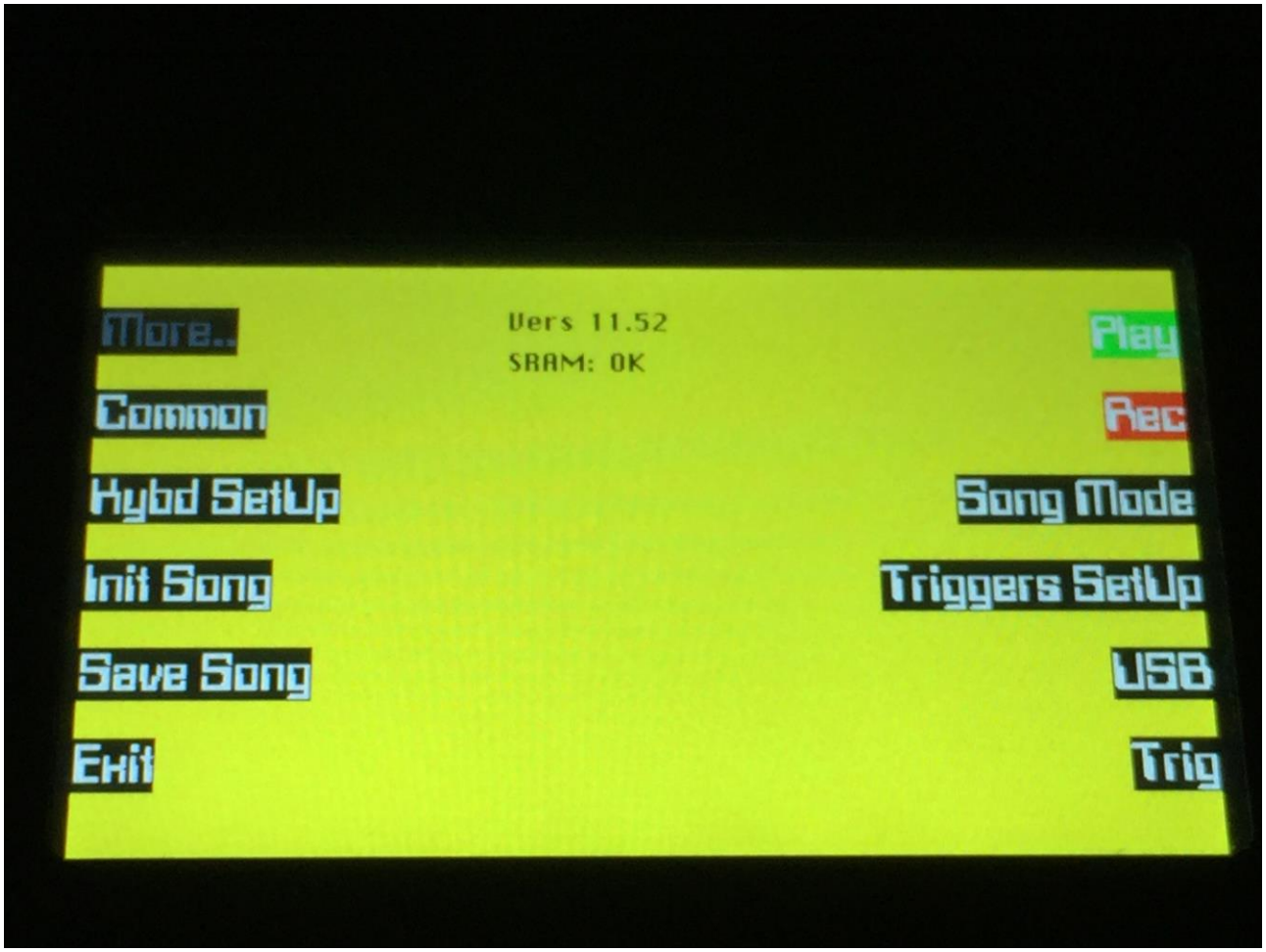
Push the save button to save your song.

After your song has been saved, Fuzion will return to the ”More..” page.

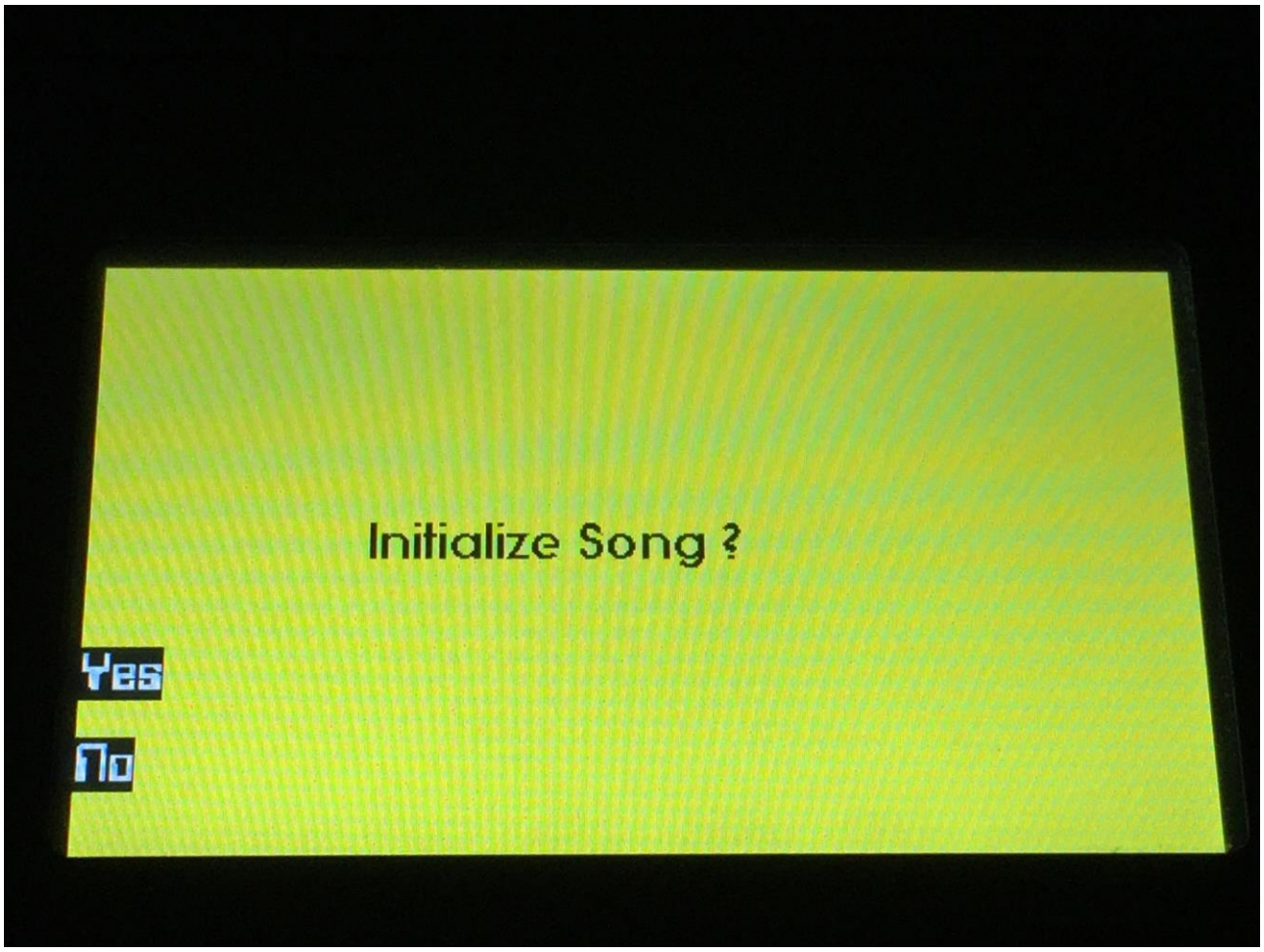
Initializing a Song

If you would just like to start all over with an empty song, it is possible to initialize it.

To do so, access the More.. page:



From here, hit the Init Song button.



Fuzion will now ask, if you really would like to initialize this song. If that is so, hit the ”Yes” button to confirm. If you are not really sure, hit the ”No” button to exit.

After you have either initialized the song or not, Fuzion will return to the More.. page.

Please notice, that when initializing a song, this is only done in Fuzion’s temporary song RAM, NOT on the FLASH memory, so if you did this by mistake, or you regretted doing it, you can always recall the song, by selecting another song, and select this again. Then nothing will be lost. It is not until you save the song, that permanent changes is done.

Regarding USB import and export of songs

Songs are exported together with Presets, when all Presets are exported, and imported together with Presets, when a single Preset or all Presets are imported.

To import a single song, make sure that your Fuzion are in song mode.
Access the USB pages, select the preset that has the song number you would like to import, and import this. When you exit the USB pages, the song will be loaded, and you can save it to Fuzion's internal memory.

When importing one preset or one song, only the preset OR the song will be imported, depending on if your Fuzion are in preset mode or song mode.

When importing all presets, both all presets and all songs will be imported, no matter if your Fuzion are in song or preset mode.

Stereo Sampling

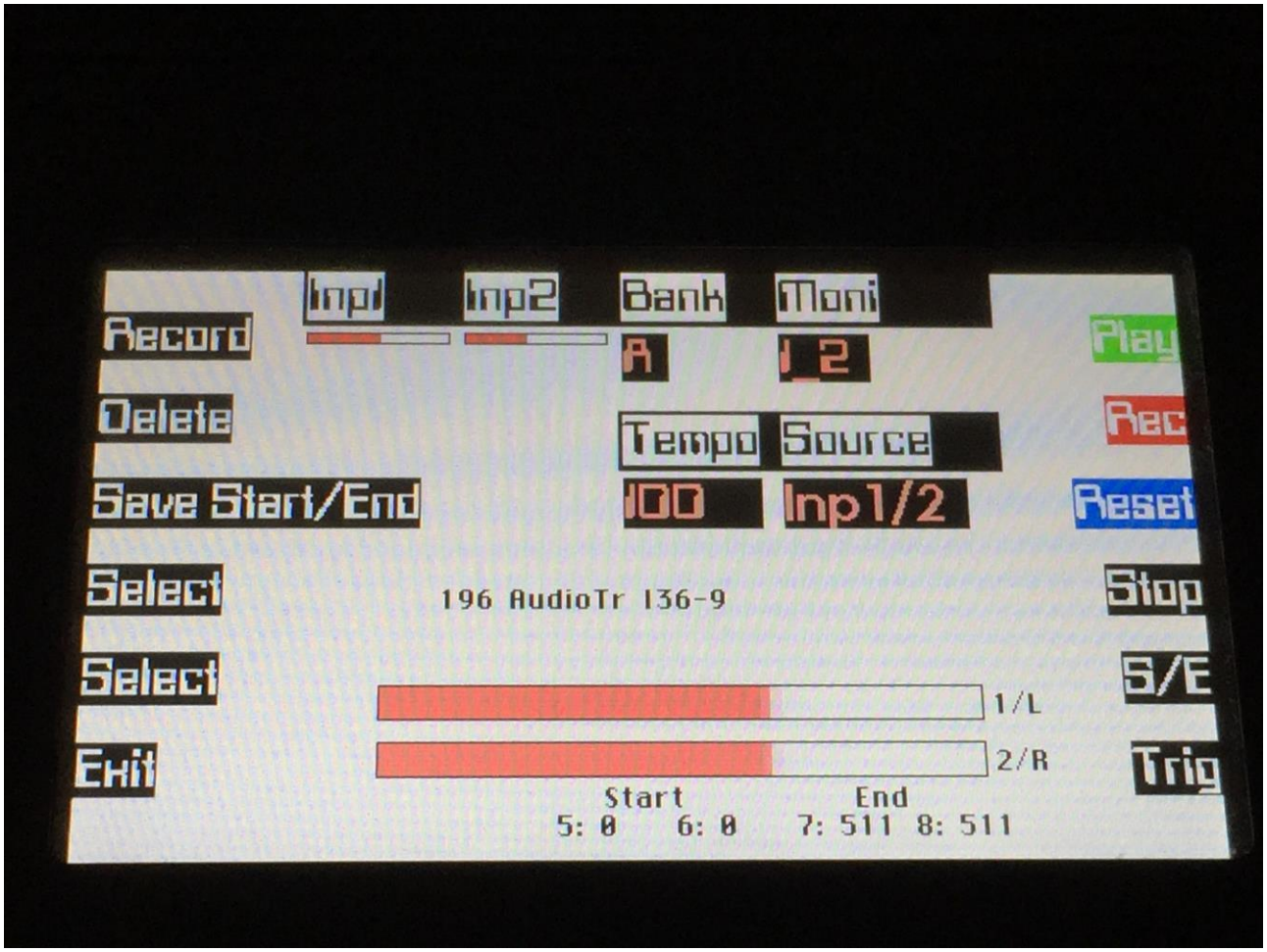
Fuzion can now record samples in stereo. When Fuzion is set up to record in stereo, on the Sample Rec page, it will also do so, when recording Audio Tracks.

It is now also possible to play back stereo samples in stereo, both those recorded on Fuzion itself, and wav files imported via USB.

To play back a stereo sampling, Fuzion uses 2 Synths. Synth 1, 2, 3 and 4 can play back the left channel of a stereo sampling, and synth 5, 6, 7 and 8 can play back the right channel.

Setting up Fuzion to record samples in stereo

Access the Sample Rec page:



When playing back stereo samples from this page, they are automatically played back in stereo.

Set the Source parameter to ”Inp 1/2 ”. This will make Fuzion monitor and record audio input 1 and 2 as a stereo pair. It is also possible to set the Source parameter to ”Outp 1/2 ” or ”Outp 3/4", if you would like to take a stereo sampling of whatever is going on, on Fuzion’s audio outputs.

Make sure to have the sample source connected to Fuzion’s audio inputs, left channel to input 1 and right channel to input 2. Set the Inp1 and Inp2 parameters to a middle value.

Apply the signal, that you wold like to sample. Watch the VU-meters. Adjust the output level of the sample source (if possible), so the VU-meters are not standing too much in the upper (right) region.

You will get the best results, by having Fuzion’s input levels set to a middle position, and adjust the level of the sample source, on the source itself. You should only adjust Fuzion’s input level parameters, if it is the only possibility you have, or if the source is too weak.

When you are ready to record the sample, push the ”Record” button in the upper left corner. Fuzion will now start to record the new sample.

Follow the rest of the procedure for recording a sample and save it, as descibed in the user manual.

Audio Tracks and stereo recordings

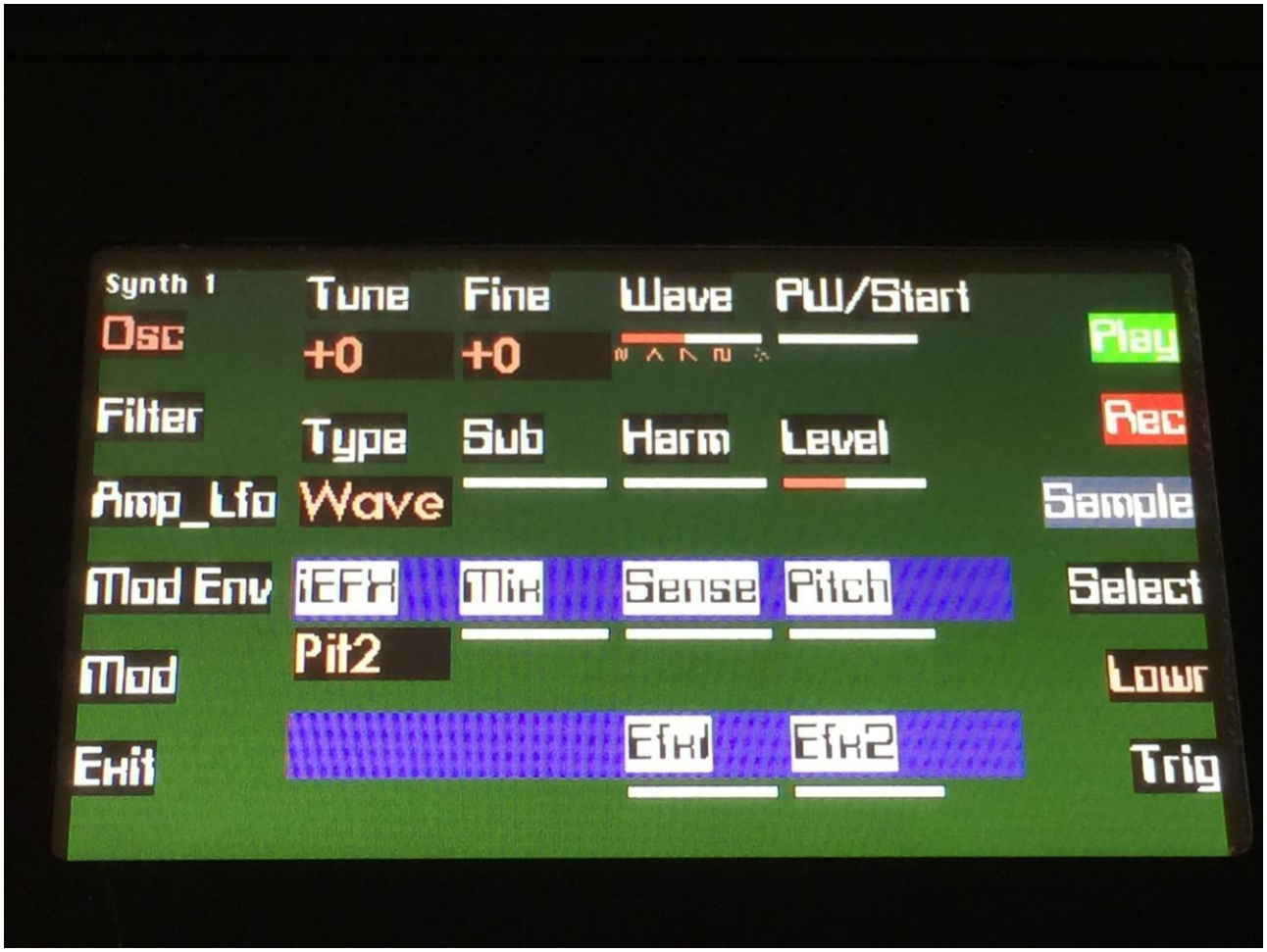
When the Source parameter is set to any of the 3 stereo sample positions, Audio Tracks 1 to 4 will also be recorded in stereo. After an Audio Track recording is done, Fuzion will automatically set everything up, so your recording is also played back in stereo. Please just keep in mind, that Fuzion will use 2 Synths to play back one stereo Audio Track:

Audio Track 1 – Sequencer track 9 – will use Synth 1 and Synth 5.
Audio Track 2 – Sequencer track 10 – will use Synth 2 and Synth 6.
Audio Track 3 – Sequencer track 11 – will use Synth 3 and Synth 7.
Audio Track 4 – Sequencer track 12 – will use Synth 4 and Synth 8.

If you, after you have recorded stereo Audio Tracks on track 9 to 12, records Audio Tracks on track 13 to 16, these will be recorded in mono, and will replace the right channels of the track 9 to 12 Audio Tracks.

Setting up a Synth to play back a stereo sample

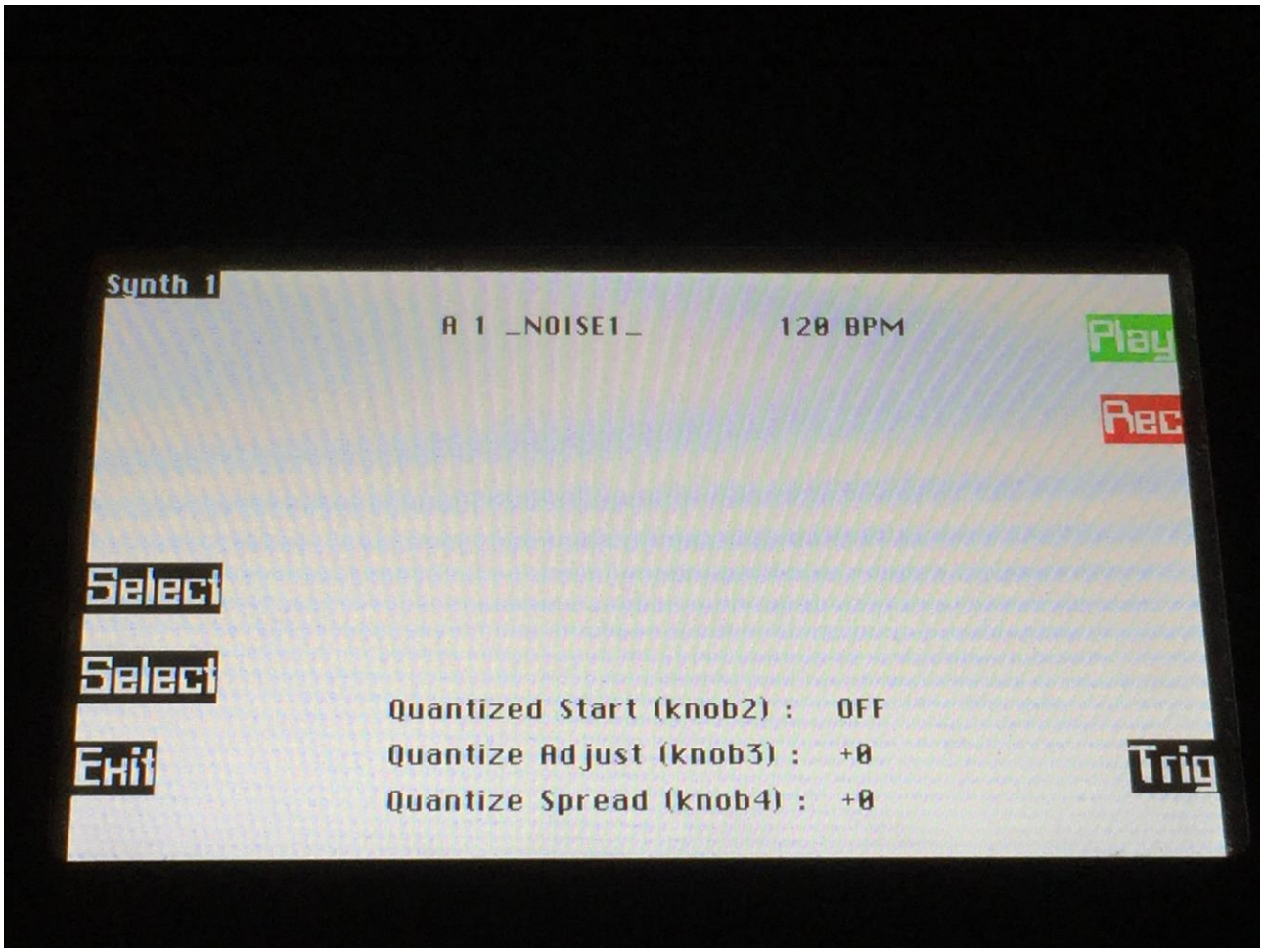
On the Synth Osc page:



Select Synth 1, 2, 3 or 4.

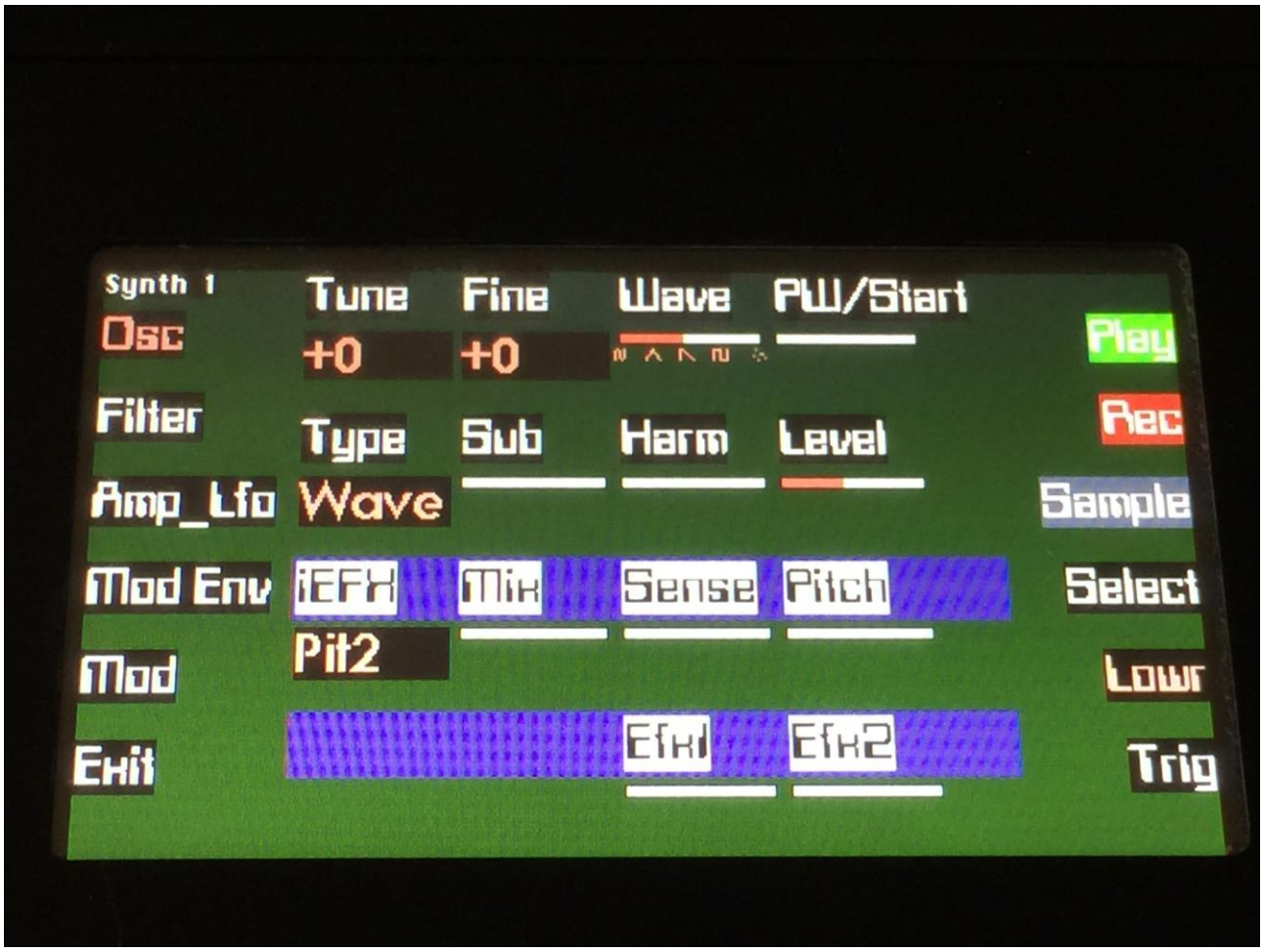
Set Type to ”Smpl” (sample).

Push the Sample button.



Select the stereo sample, you would like the synth to play back.

Exit to the Synth Osc page.

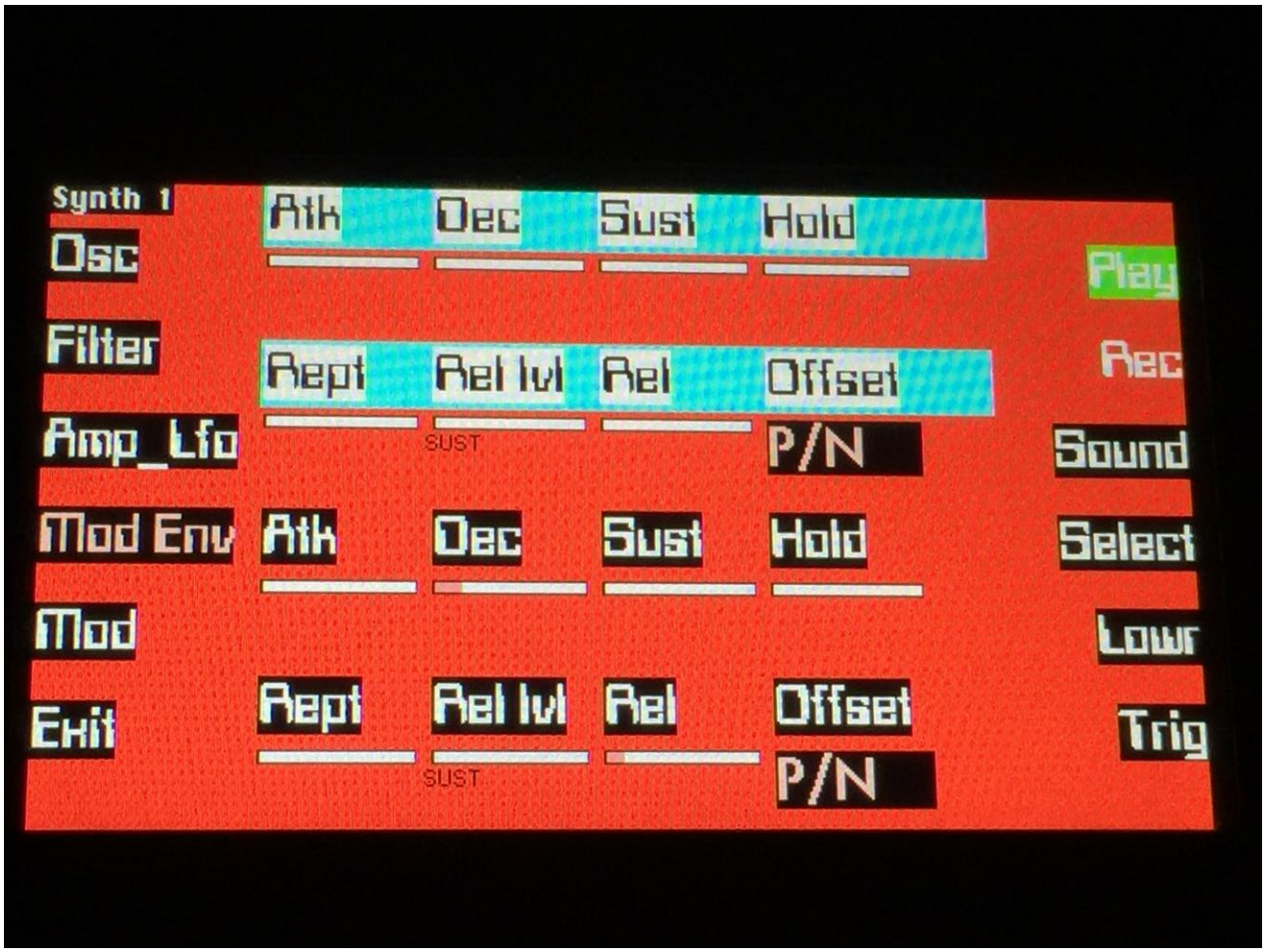


Now when this synth is trigged, it will play back the left audio channel of the stereo sample in both speakers.

Synth 1, 2, 3 and 4 needs Synth 5, 6, 7 and 8 to play back the right audio channel of a stereo sampling. Synth 1 uses Synth 5, Synth 2 uses Synth 6 and so on.

If you had Synth 1 set up to play back the stereo sampling, now select Synth 5.
Set the Type of Synth 5 to ”St1”. Now, when Synth 1 is trigged, the stereo sample assigned to it, will play back in stereo.

Envelopes Offset



An envelope offset parameter has been added to the two Mod Envelopes.

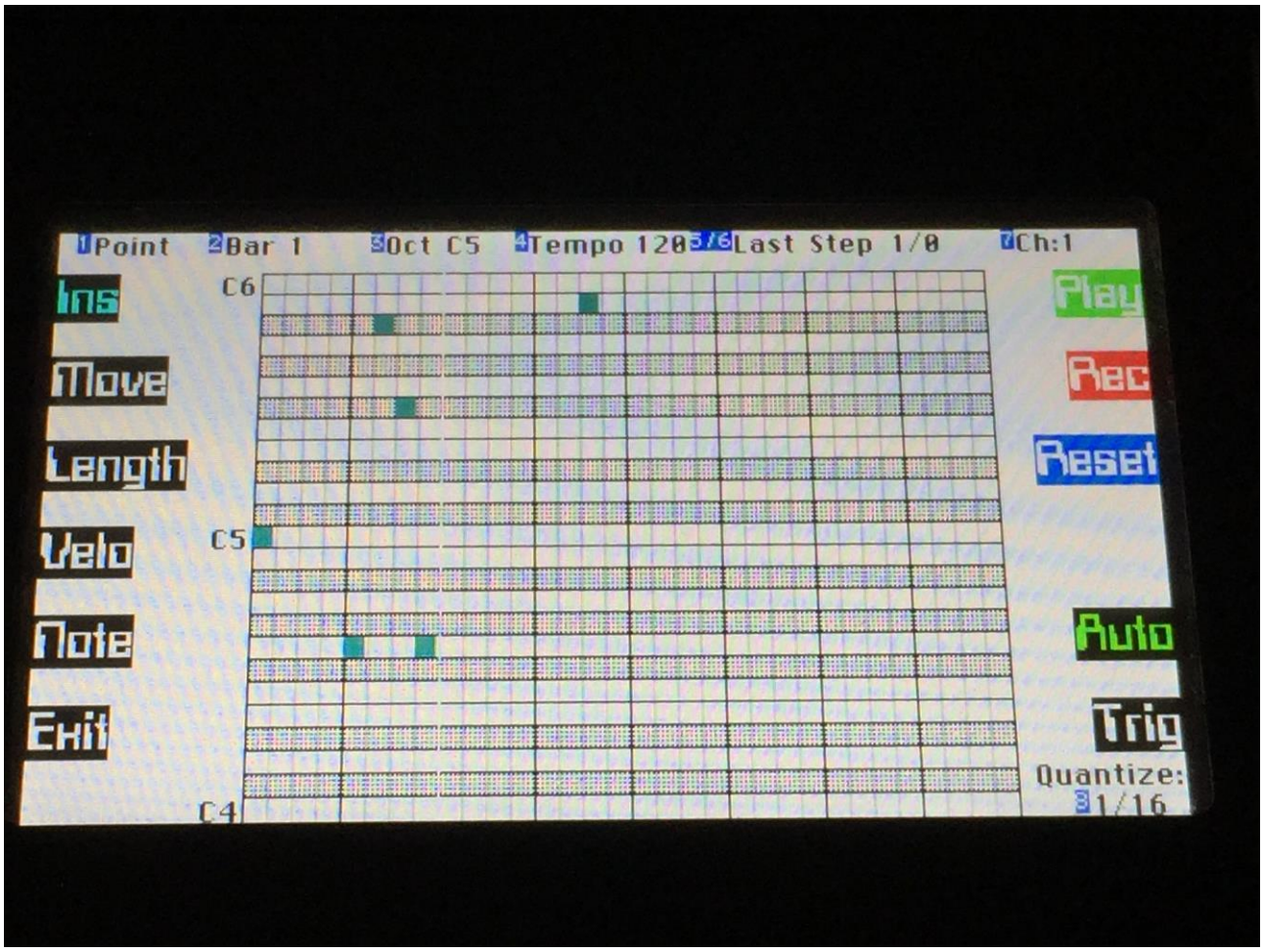
Offset can be set to:

P/N: Positive/Negative. The envelope will work around the zero point, and apply both negative and positive modulation to the parameters affected by it.

Pos: Positive only. The envelope will only work above the zero point, and will only add to the values of the parameters affected by it.

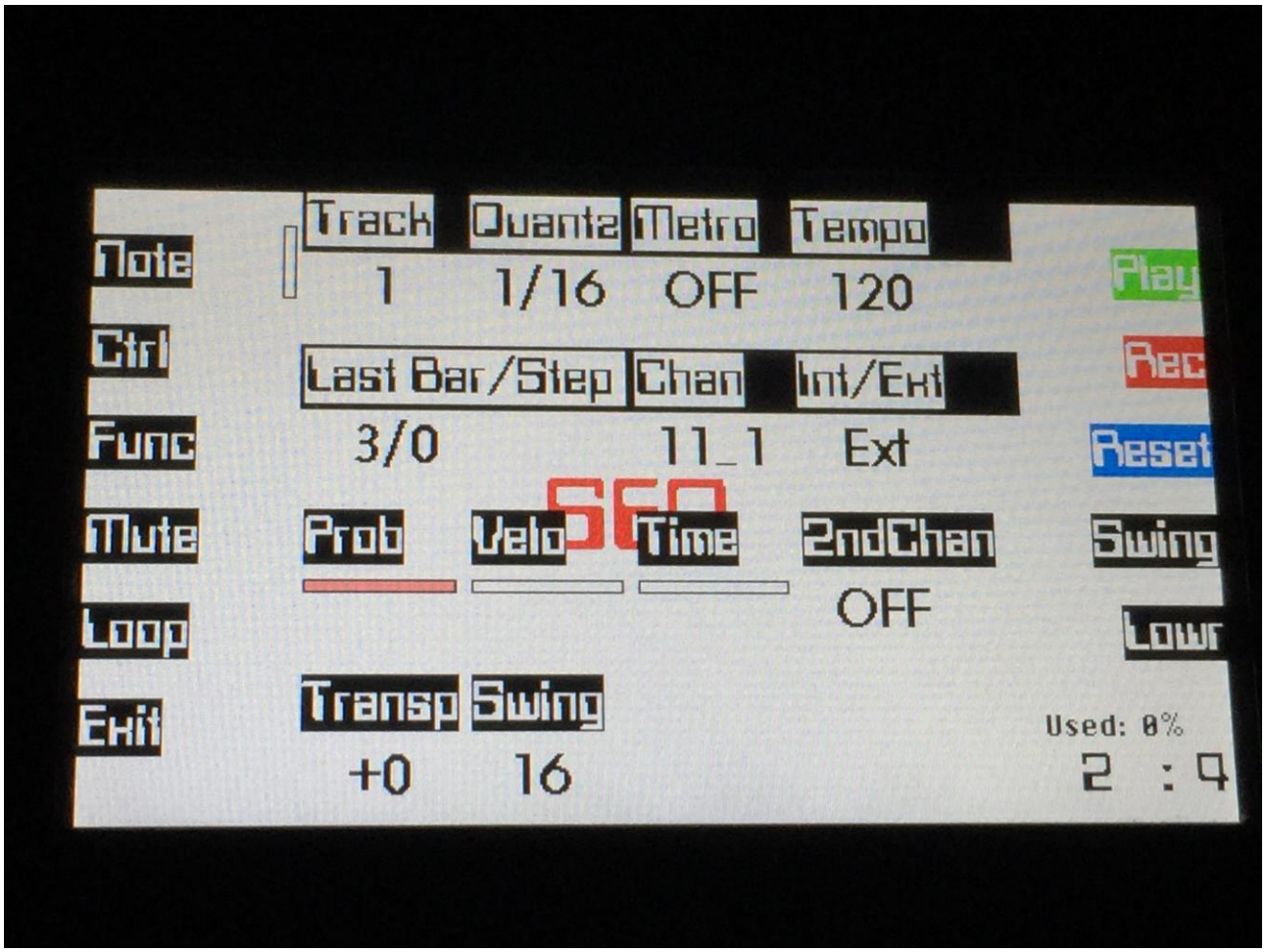
Insert pointer recording Auto Increment

An ”Auto” button has now been added to the sequencer Note Edit page, when ”Ins” recording is activated, so it is possible to do traditional ”step” recording.

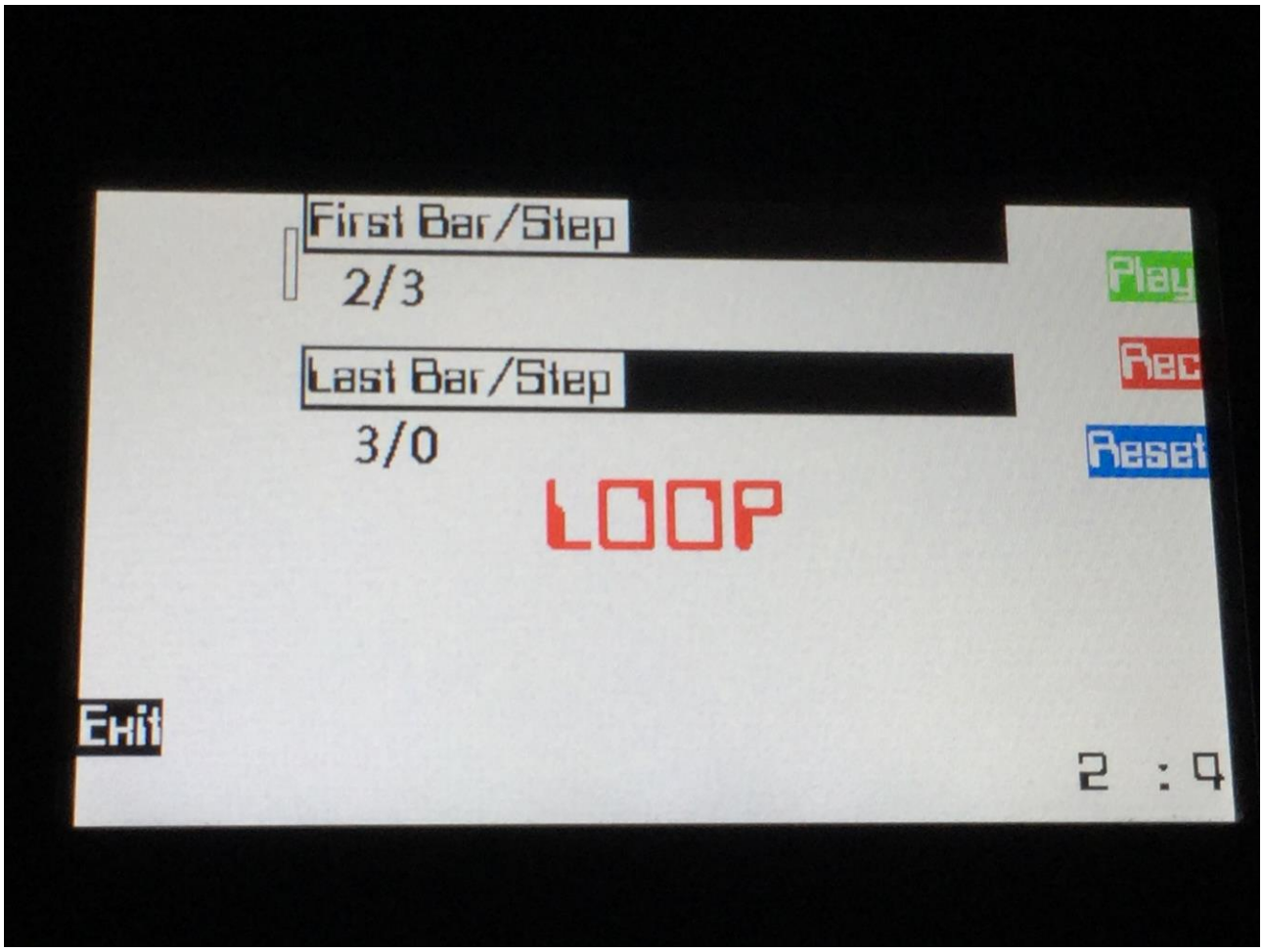


When ”Auto” is activated, the insert pointer will automatically be incremented by the value set by the Quantize parameter, every time it has received one or more note on messages, and all of these has been released again. If no Quantize value is set, the pointer will be incremented by 1/16th note.

New Sequencer Track Loop page



When in Preset mode, a new button called ”Loop” has been added to the Sequencer Main page. Push this to enter the new Loop page.



On the Loop page you can adjust the start bar/step and the end bar/step of each sequencer track, to make the sequencer play back and loop only a portion of a track, and to make the track start playing back from another point than bar 1 step 0.

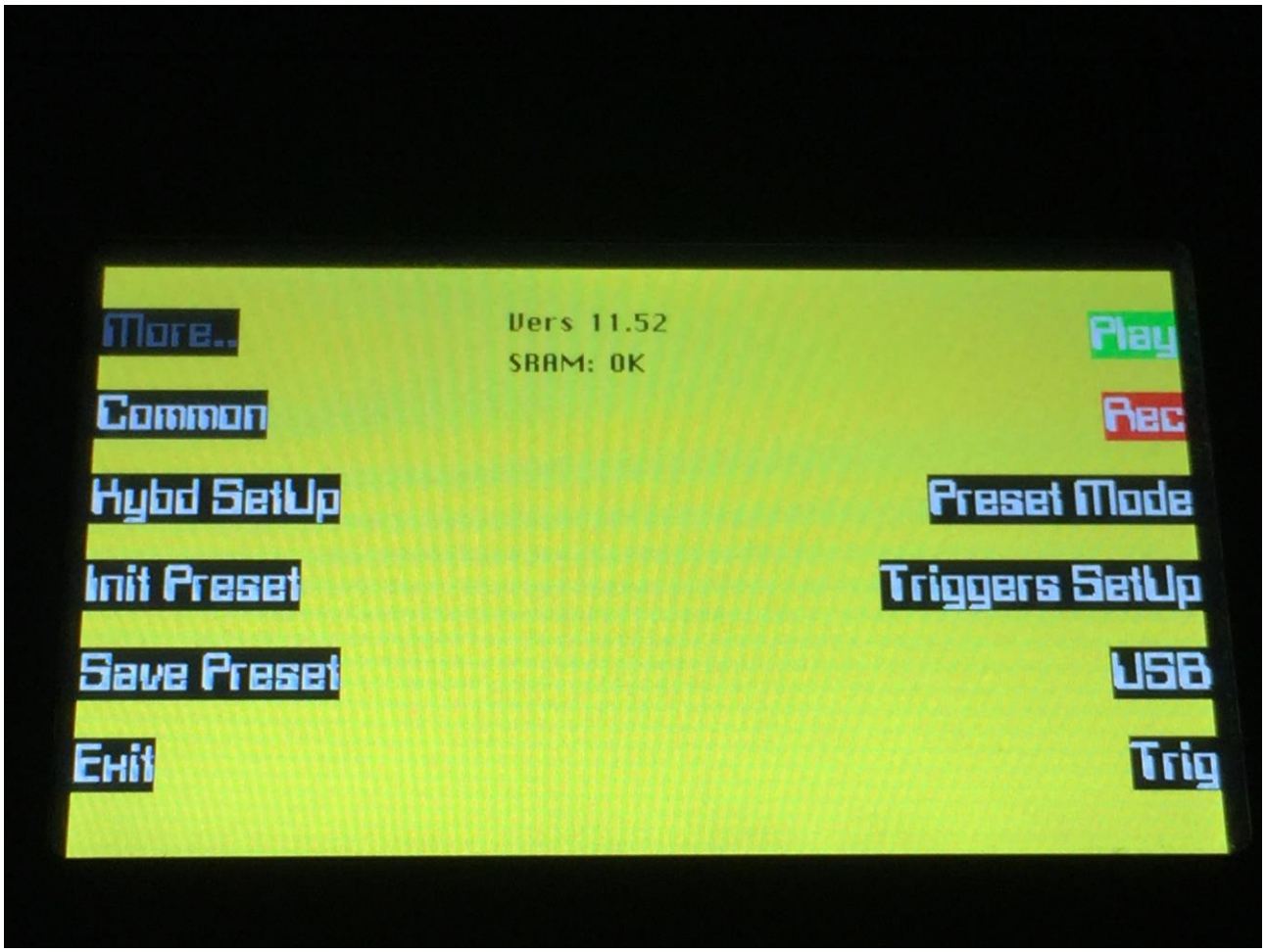
This feature works both on MIDI tracks, internal Synth tracks and Audio Tracks, and the settings are stored within each preset.

Edit Knobs MIDI CC's

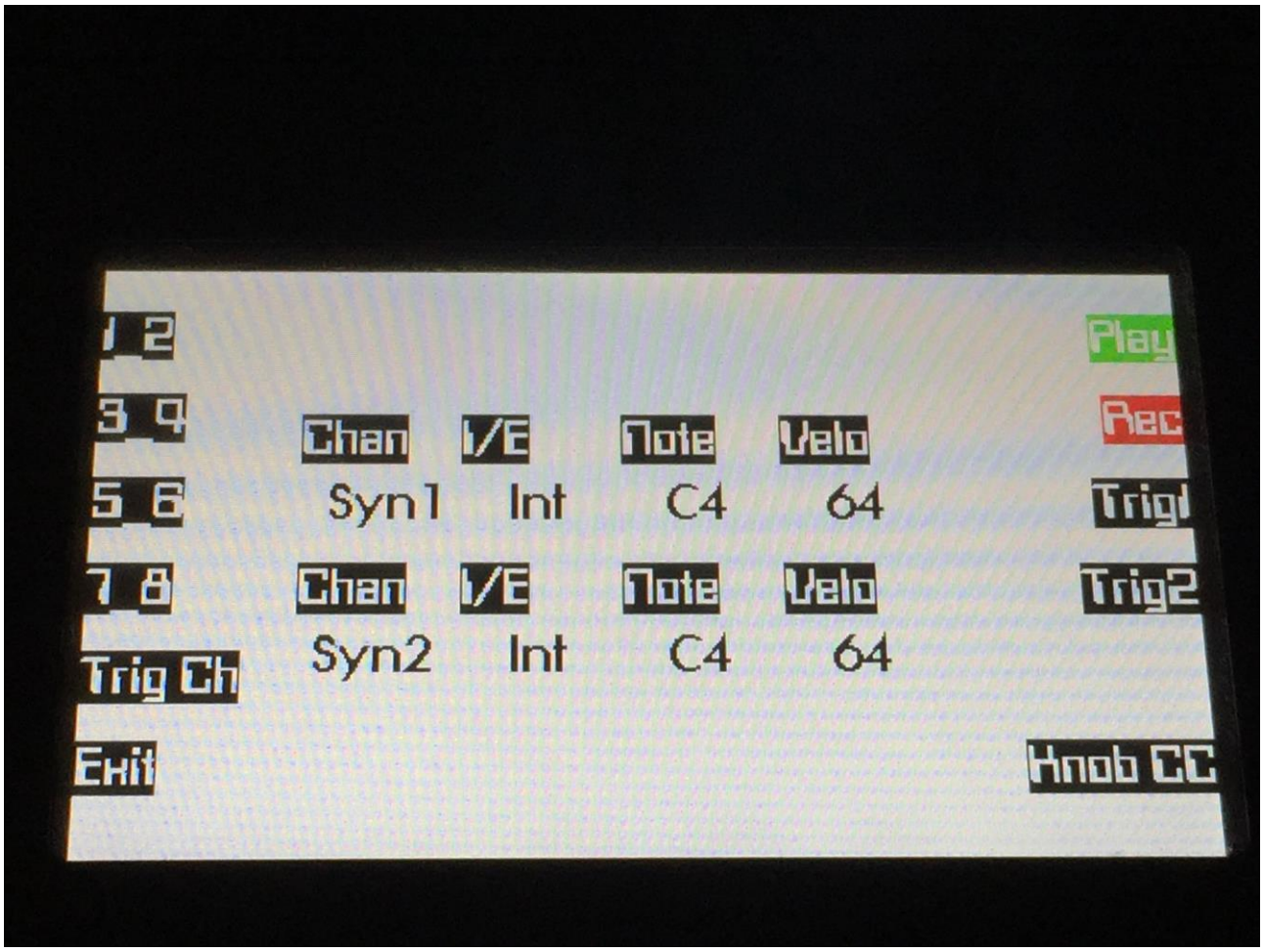
It is now possible to set up the 8 Edit Knobs to transmit MIDI CC's, to control the internal Synths and external MIDI gear, connected to Fuzion's MIDI outputs.

The MIDI CC's are transmitted, when turning the edit knobs on the Preset Select page and on the Song select page. They are transmitted an channelized via the currently selected sequencer track.

To select what MIDI CC each knob should transmit, enter the More.. page:

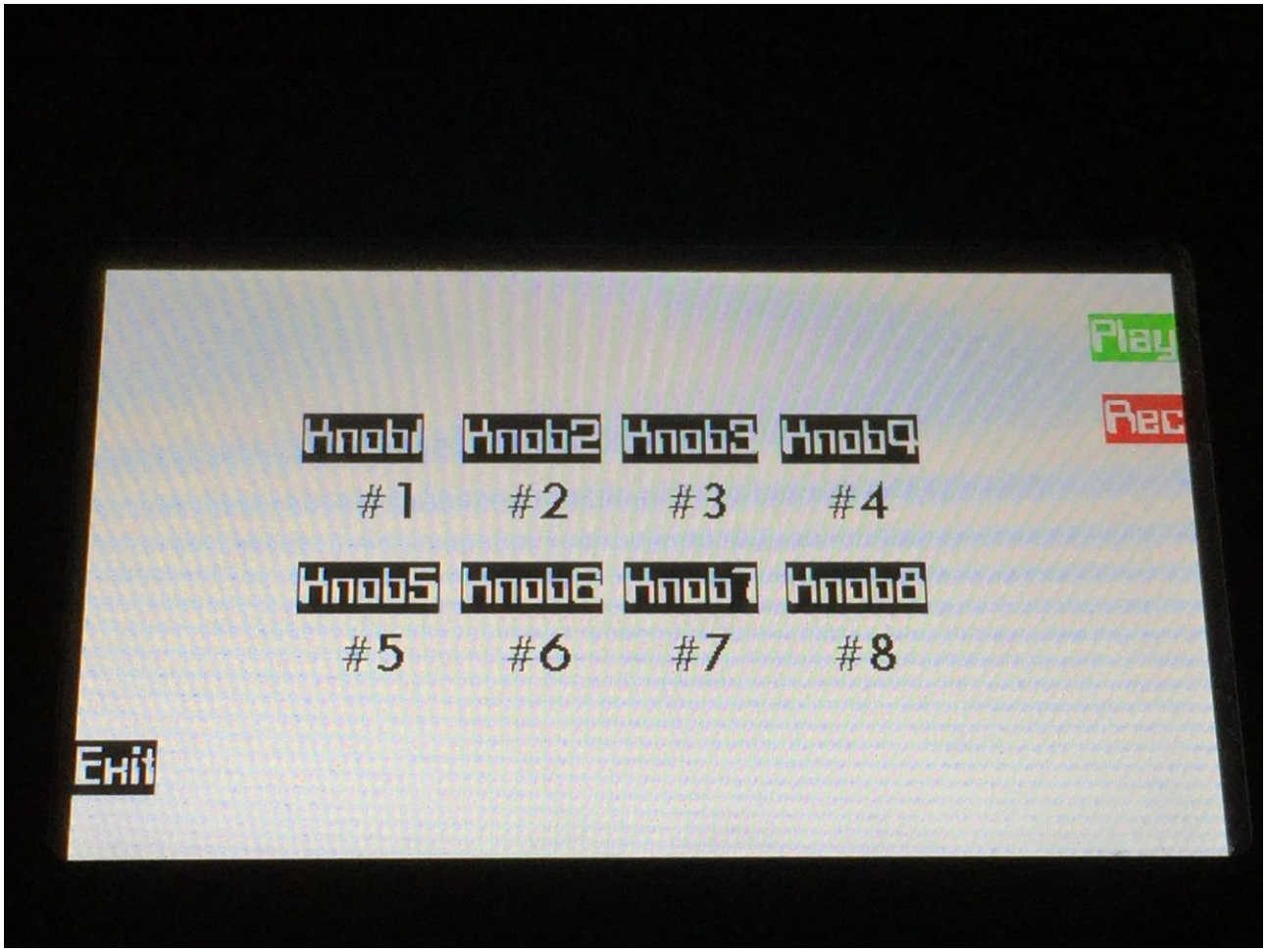


Here, push the "Triggers Setup" button.



Push the ”Knob CC” button.

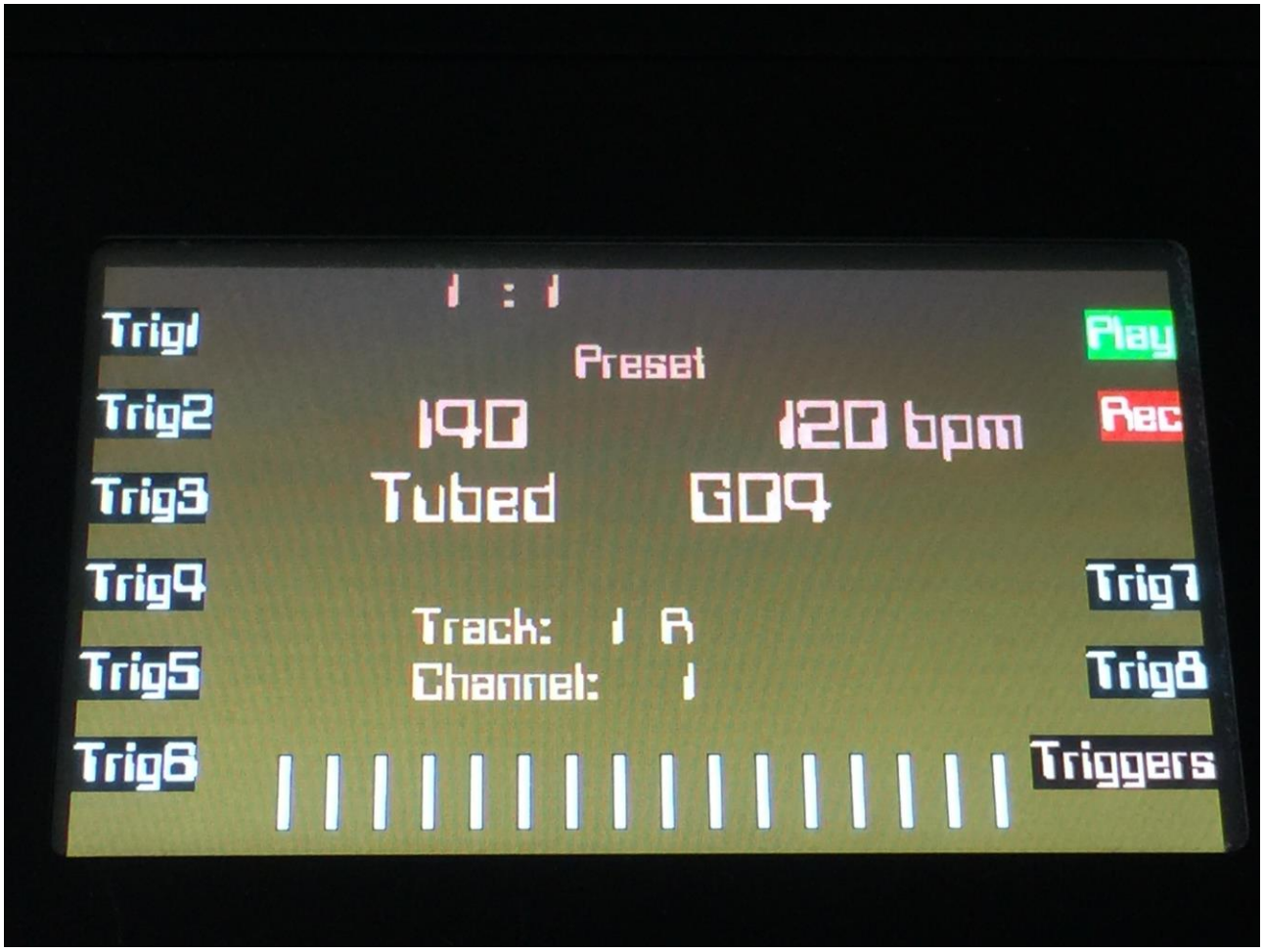
….And now you are finally here:



Use Edit Knob 1 to 8 to set a CC number for each knob.

These settings are stored within each preset.

Triggers MIDI control and recording



Yes, it is true!!! Your eyes does not fool you! Fuzion's 8 assignable triggers can now be both trigged from external MIDI gear and from Fuzion's sequencer, and they can also be realtime recorded!!!

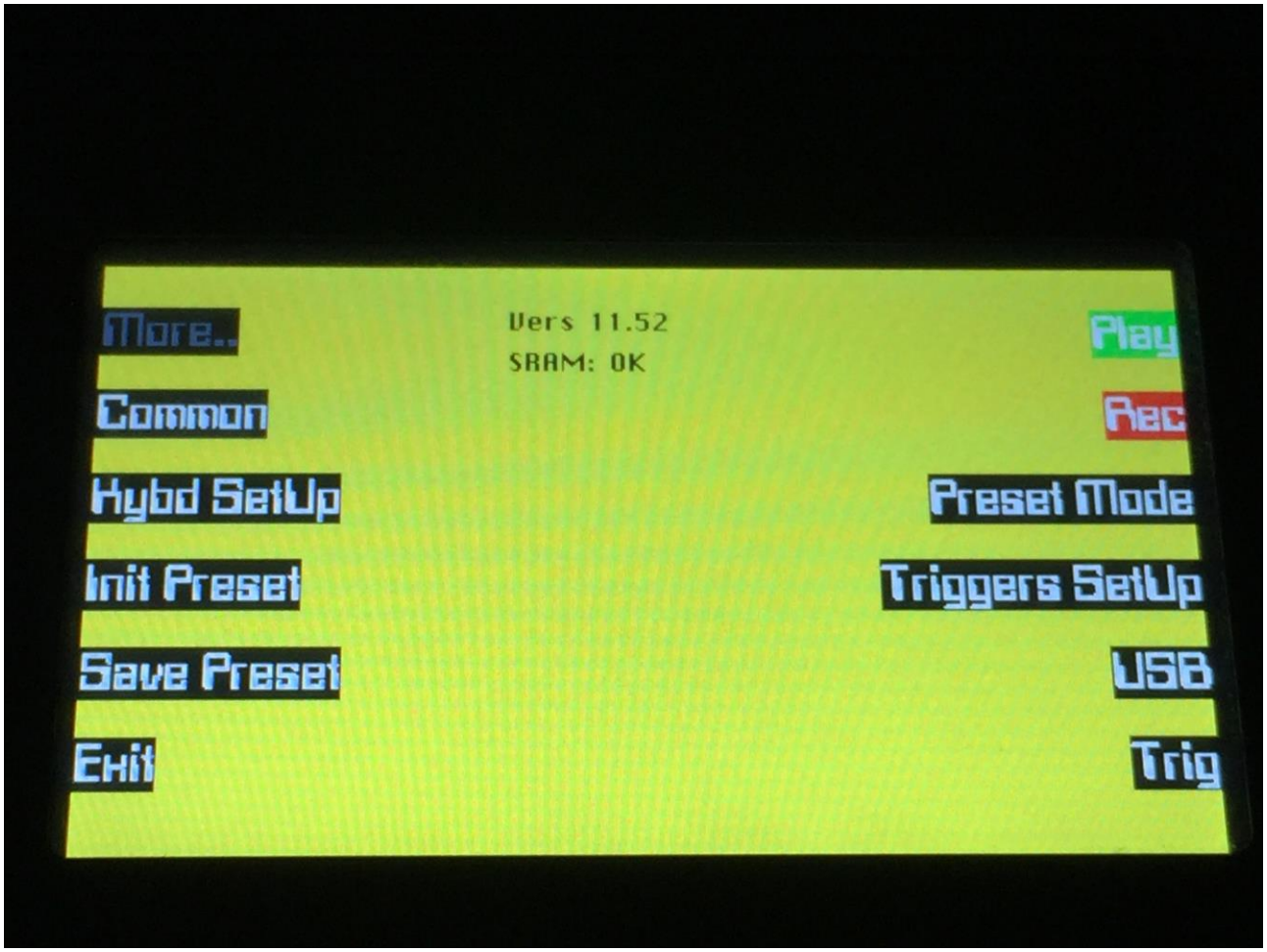
To make this possible, we must set up a common MIDI receive channel for these. This is only the MIDI channel that is used to trigger the triggers. Each trigger can still be set up to trigger internal Synths and external MIDI gear, on any MIDI channel and in any combination you like.

When triggering the Triggers from a connected MIDI keyboard, they are placed from note C3 to G3.

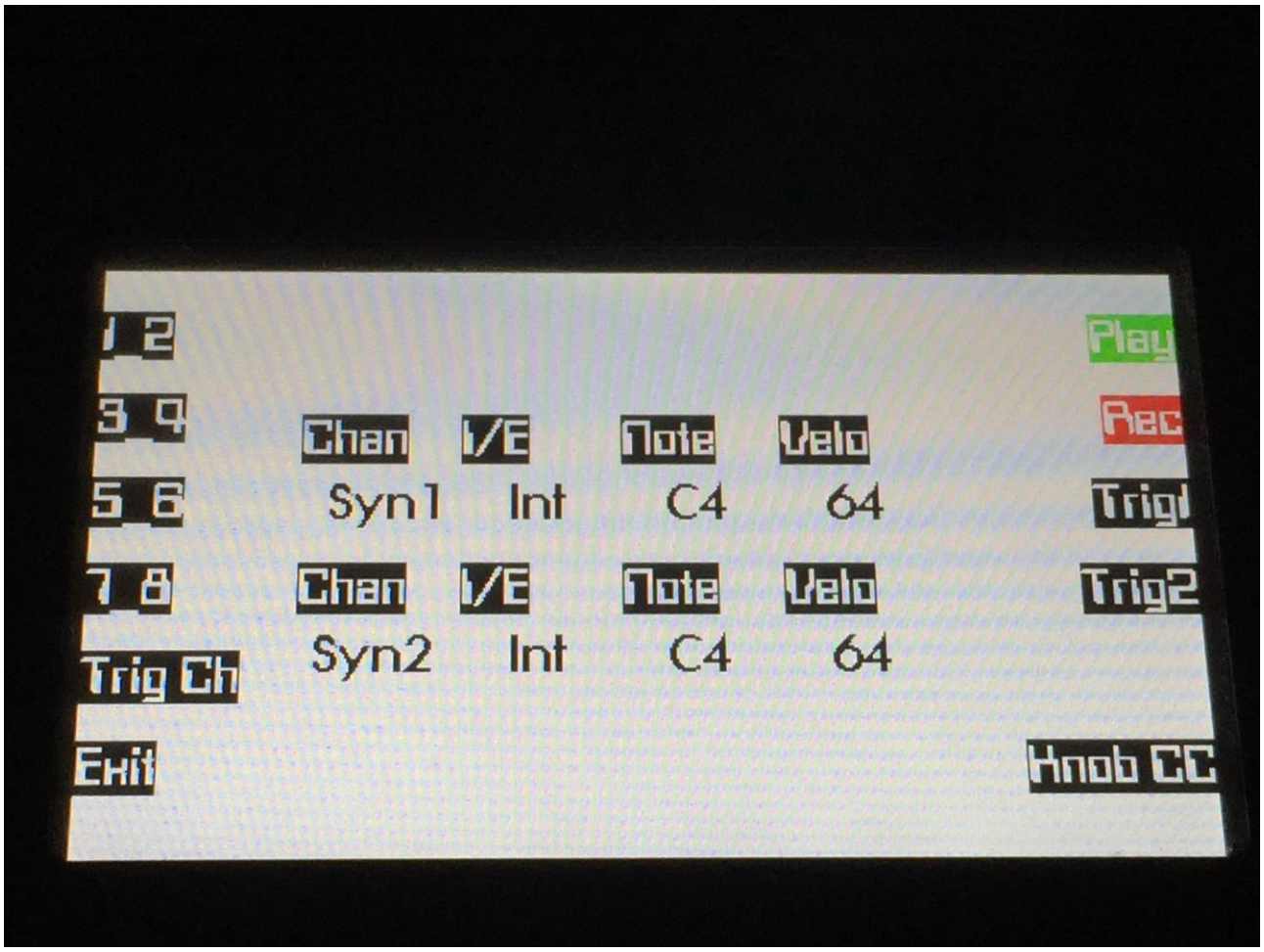
Or actually, you don't really need to set up this channel. The triggers are also added as an internal "Direct Synth 9" called "Trigs", that you can choose for a sequencer track to control and channelize to.

You will only actually have to set the triggers reveive MIDI channel, if you plan to use the triggers in a key split setup, together with any of the internal Synths. So in case that you ever would like to do this, it is a good thing to know how to do it.

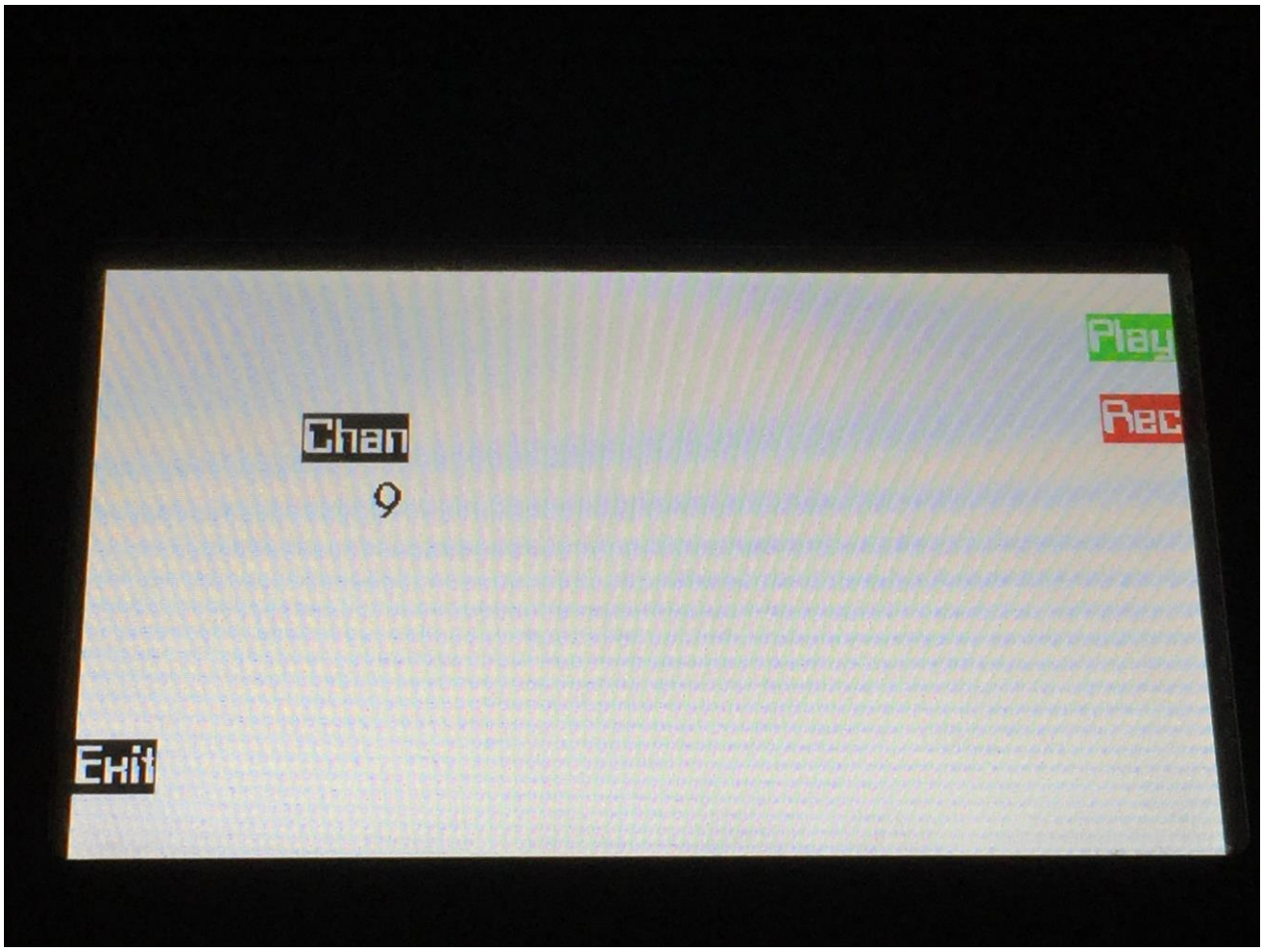
First, go to the More.. page:



Push the ”Triggers Setup” button.



Push the ”Trig Ch” button.

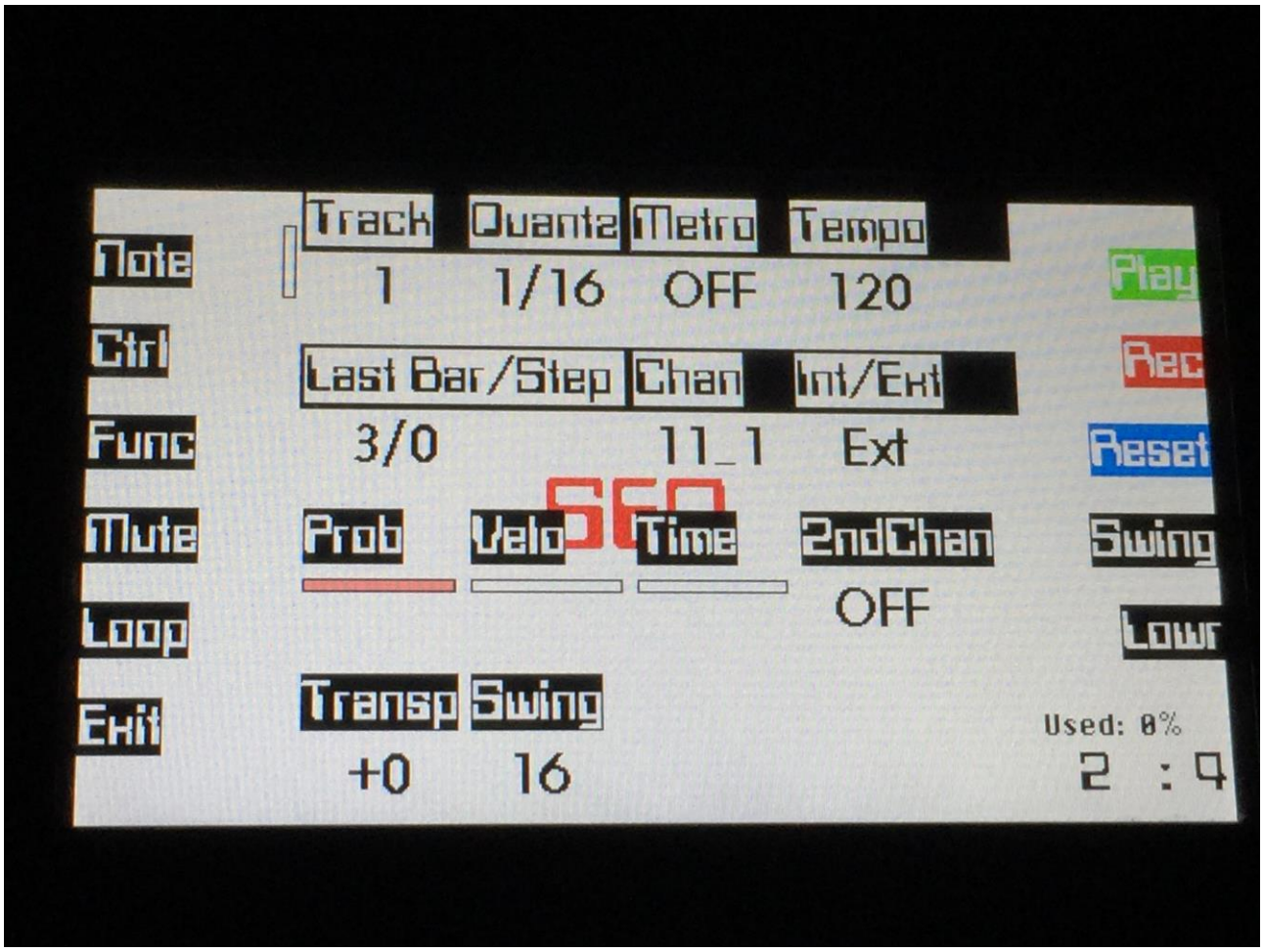


Now you can adjust the Triggers Receive MIDI channel, using Edit Knob 1.

This setting is stored within each preset.

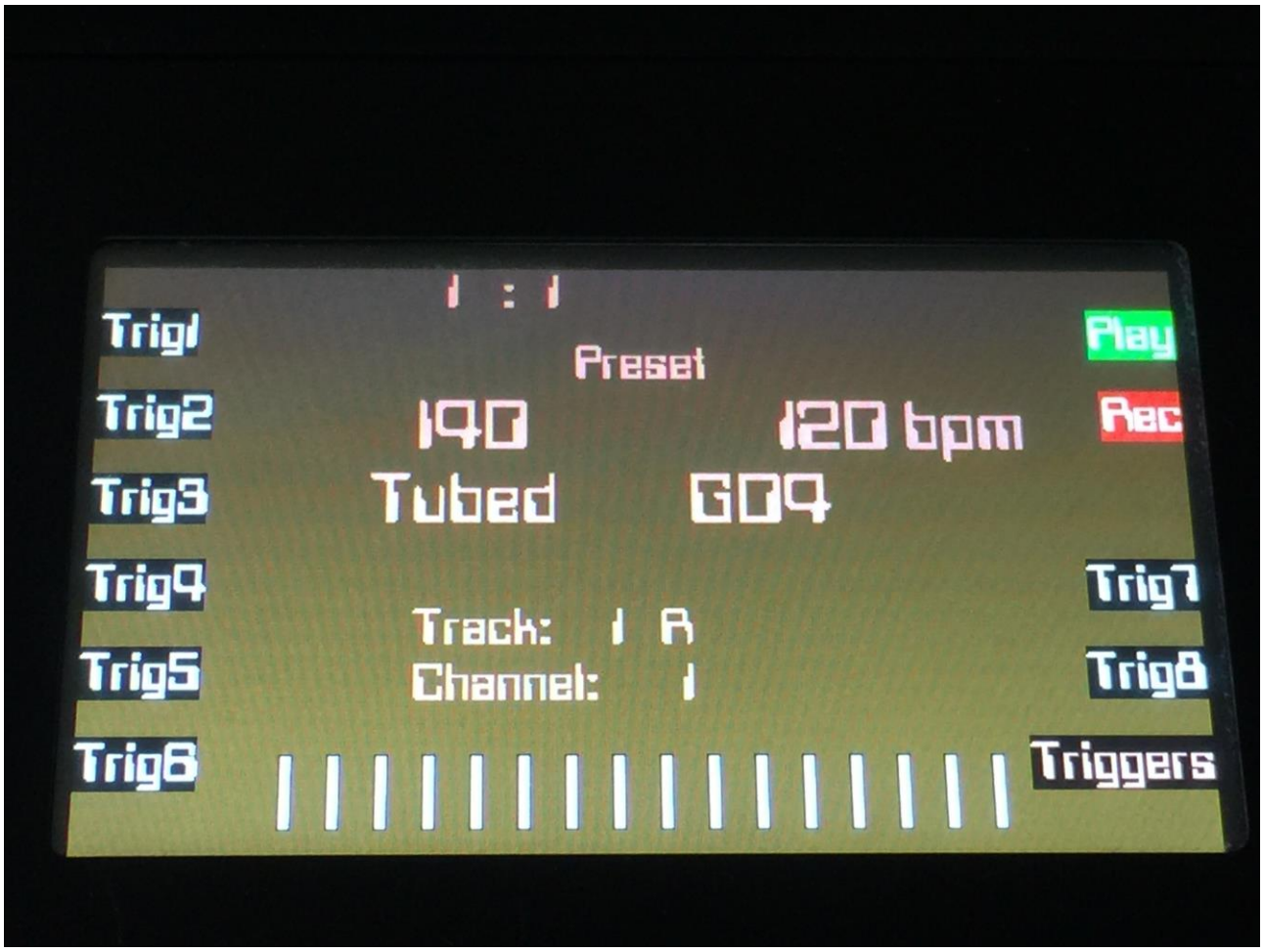
Realtime recording of the Triggers

Assuming that you already have the Triggers set up to trigger the internal Synths/external MIDI gear you want, as described in the user manual, go to the Sequencer Main page:



Make sure that the currently selected track is set to ”Int”, and either ”Trigs”, or the same MIDI channel as the Triggers receive MIDI channel.

Now exit to the Preset Select page, and hit the ”Triggers” button.



Hit the ”Rec” button, so its LED is lit, and if the sequencer is not already playing back, hit the ”Play” button too, and start jamming.

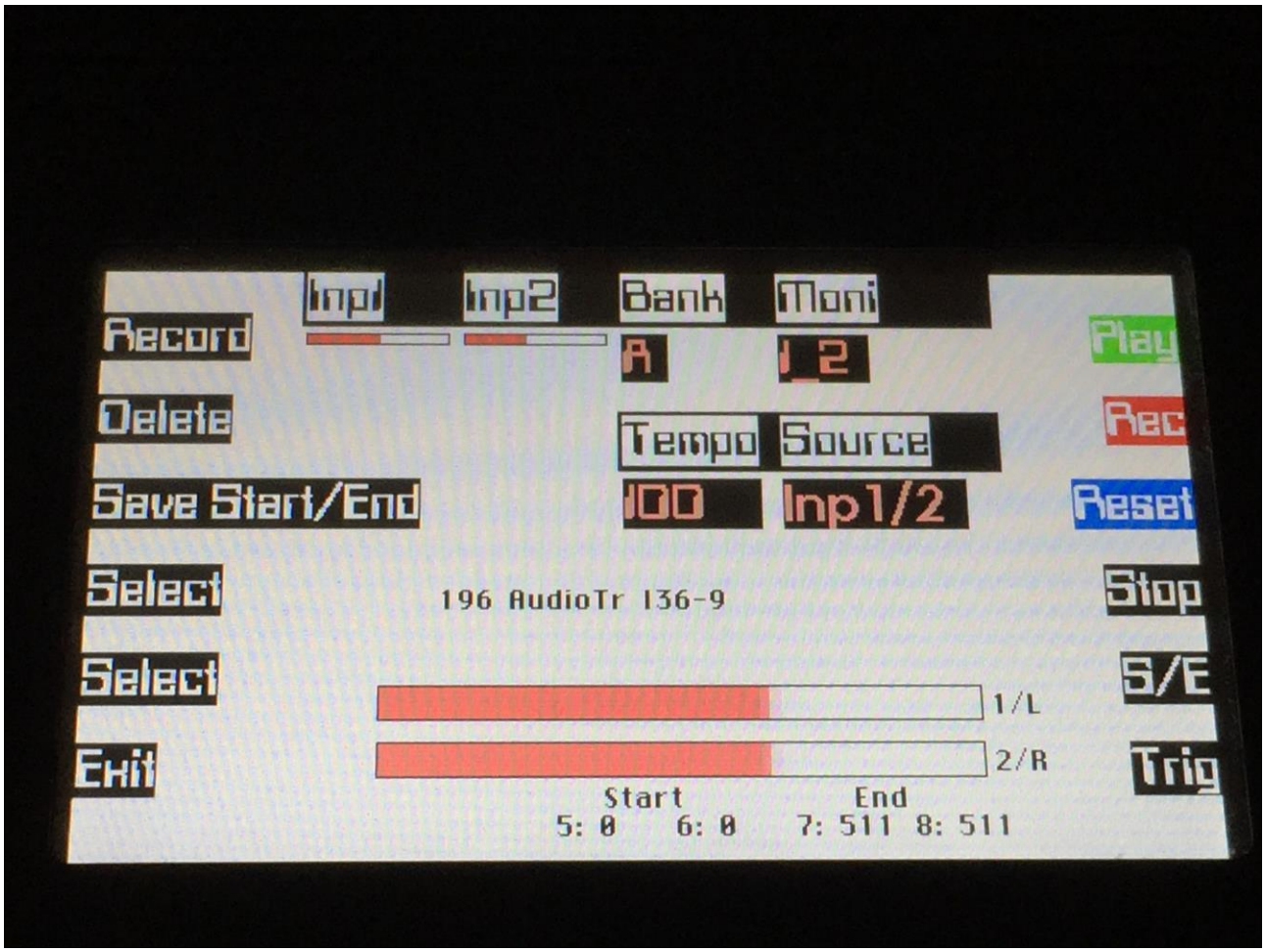
When you are done recording, hit the ”Rec” button to turn off the Rec LED, and listen to the result.

Every time a Trigger is trigged, either by its button, the sequencer or a connected MIDI keyboard, its corresponding LED will light up.

The Trigger trigs are recorded as note on’s and note off’s, and can be edited in the seqencer, just like any other notes.

As usual, if you are happy with your recordings, REMEMBER TO SAVE YOUR PRESET!

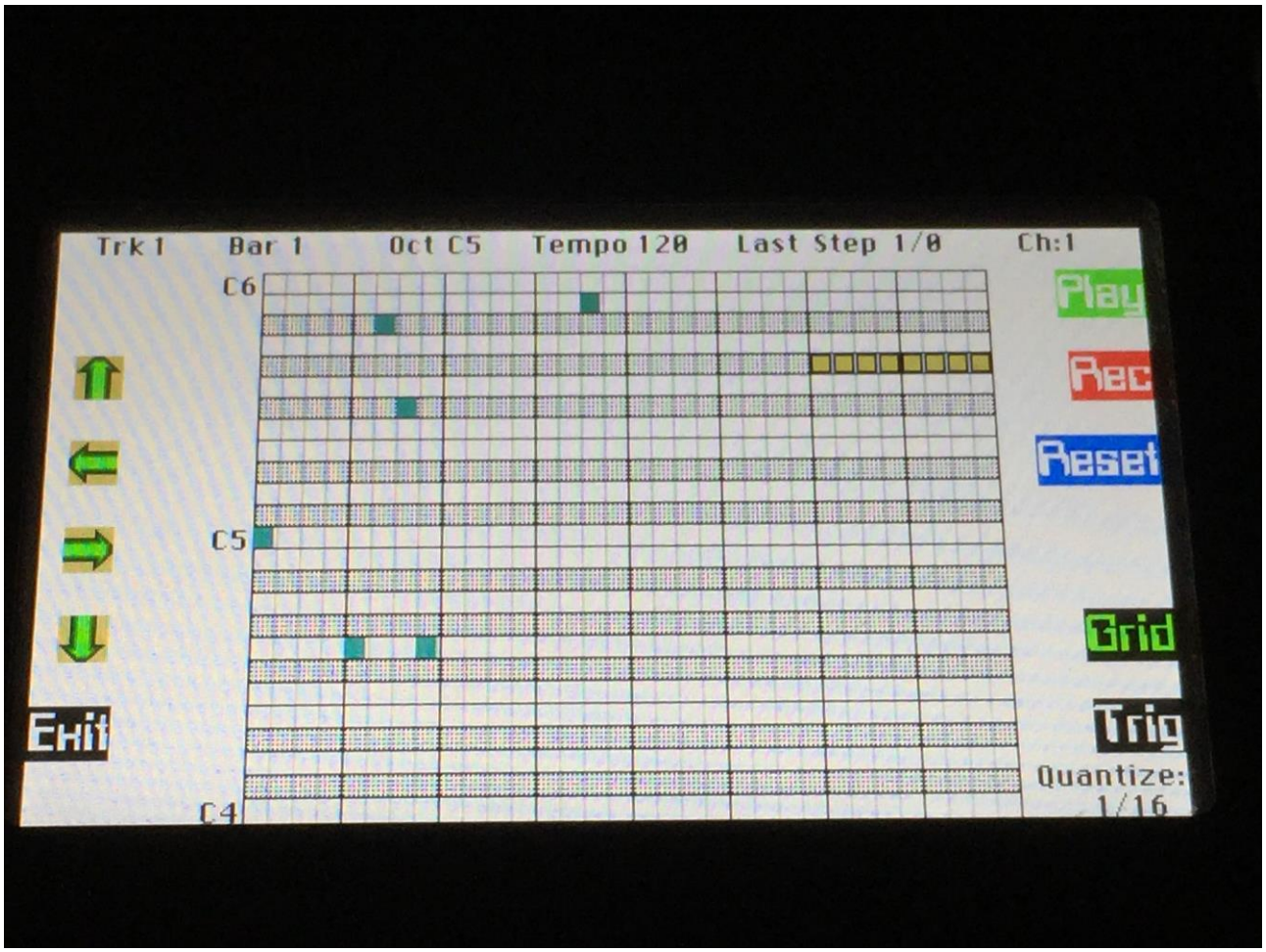
Stopping sample playback on the Sample Rec page



On the Sample Rec page, a new button called ”Stop” has been added. Pushing this, will stop sample playback.

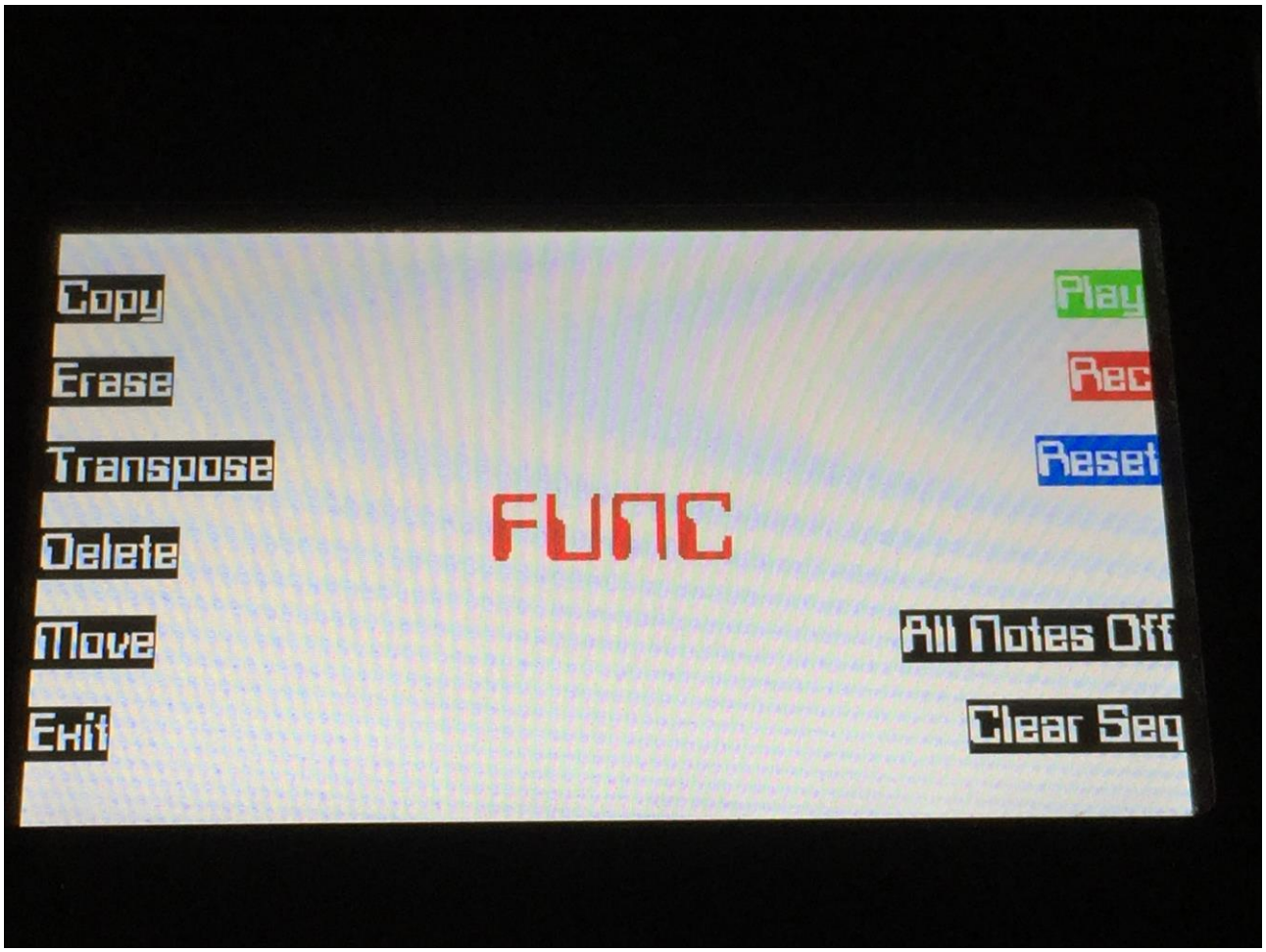
Sample playback is now also stopped, when selecting another sample, and when exit’ing from the Sample Rec page.

Grid and Insert recording window



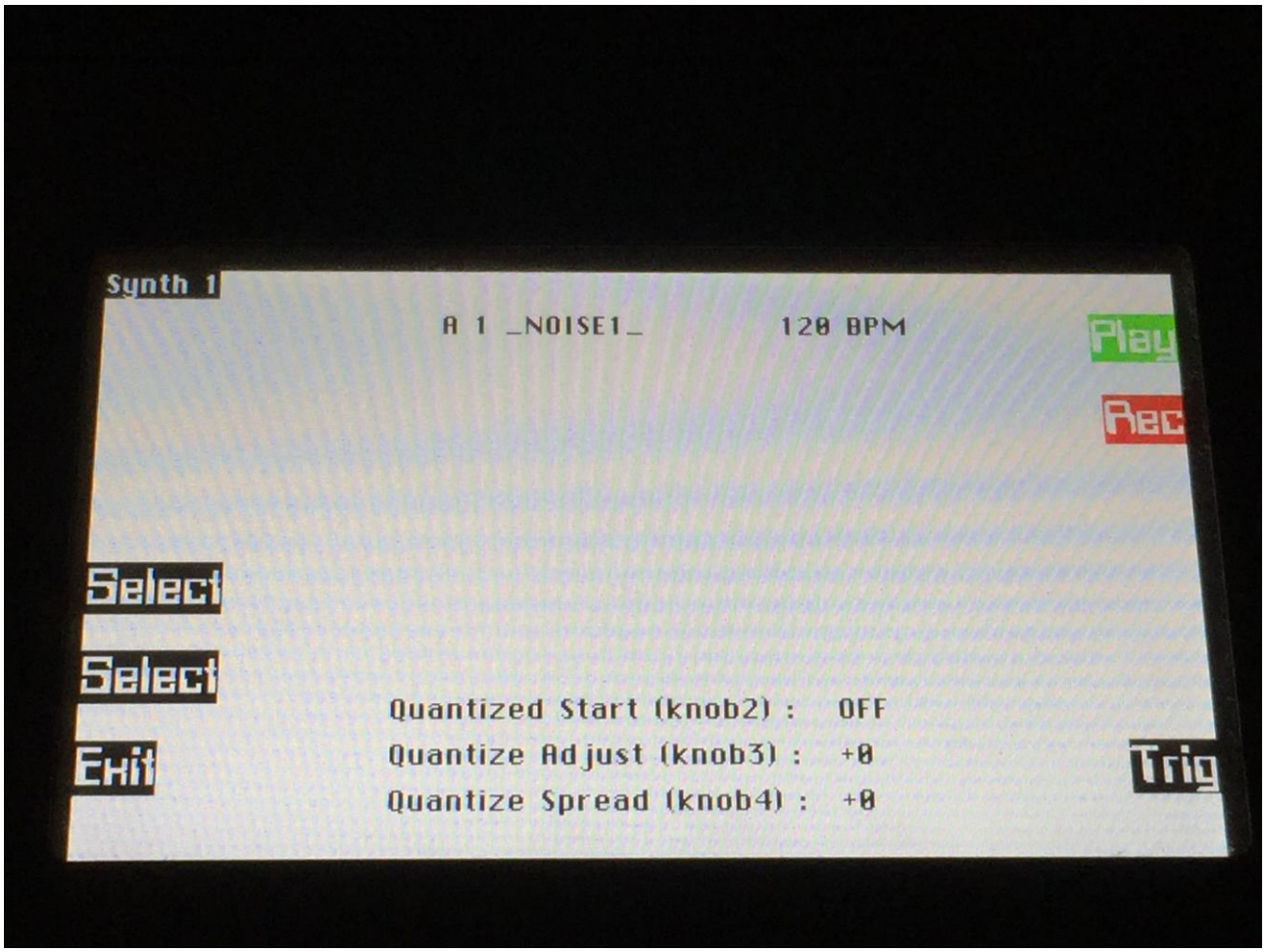
When doing Grid recording, and using the arrows to move the grid recording bars around, and when using the new ”Auto” mode for Insert recording, and you exceeds the limits of the 2 bar/2octave note window, Fuzion will now automatically jump to the next bar or octave window.

”All Notes Off” on the Sequencer Function page



Pushing this will stop all active notes on Fuzion’s internal Synth’s, and send ”All Notes Off” messages on all MIDI channels, on both MIDI outputs.

Remix Quantize ”Spread” parameter



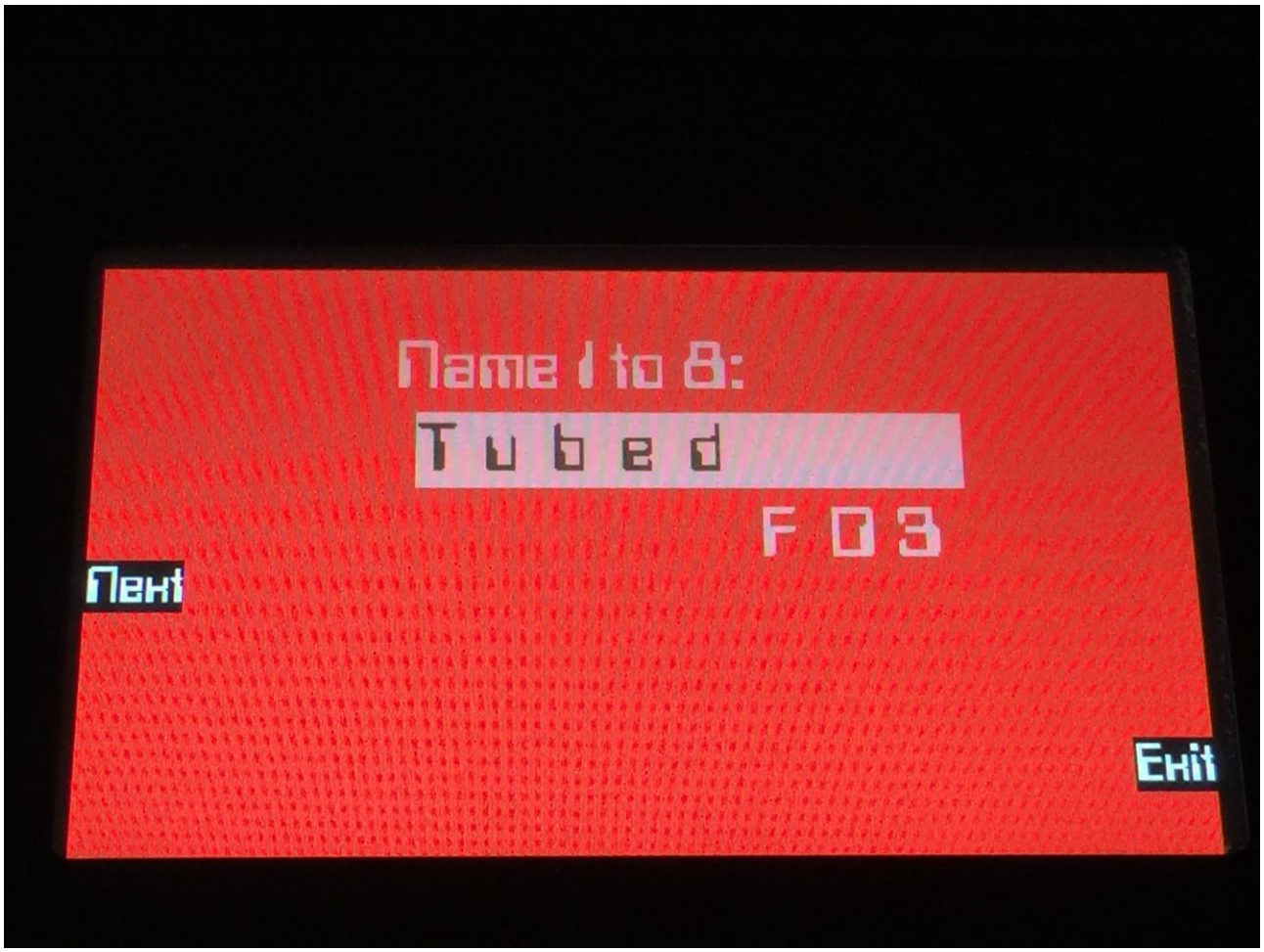
By adjusting Edit Knob 4 on the Synth > Sample Select page, it is now possible to fine adjust the sample tempo, of a sample used with the Quantized start/Remix function, without having to re-adjust the sample tempo directly, either because it’s nescessary, or just for fun and experimentation.

This parameter will only have an effect, if the Quantized Start parameter is set to any other value than Off, and its value is saved within each preset.

MIDI input 2 are now fully functional

Until now, it was not possible to record from MIDI input 2, and CC's were not received by the internal Synth's from this. All functionality has now been applied, so it functions in exactly the same way as MIDI input 1.

When naming Presets, Songs, Samples and USB files, the character selection has now been spread out over a wider range, to make it easier to select a specific character



Roland JD-XA

The Roland JD-XA transmits the same MIDI data on the channels of all its active parts, at the same time (i.e. note, bend and CC messages). This did not go very well together with Fuzion's channelizing system, so it now has an automatic MIDI filter system implemented, that will check for issues like this, and filter out any unnescessary MIDI messages.

News in update 10.60

Audio Tracks
By simple operations, Fuzion can now record a sample, and automatically place it as and audio track, on sequencer track 9 to 16 (8 tracks in total).
When stopping and starting the sequencer, audio tracks are continued.

Sample tempo and quantized start (Remix)
All samples now has a tempo assigned to them. This is used by the audio tracks, and by the new Quantized Start function. A sample tempo can be manually applied on the Sample Rec page. If a sample has no tempo assigned to it, its tempo will be set to 120 BPM.
If you plan to use an imported sample as an audio track, the tempo for it must be adjusted.
The Quantized Start function makes the sample start parameter jump to rhythmical divisions of the sample. This is very useful for remixing an audio track.

Synth Triggers
On the Preset Select page, the ”Trig” button has now been renamed to ”Triggers”. When this is activated, 8 of the pushbuttons can now be assigned to trigger the internal synths or external MIDI devices.

Sample source select
It is now possible to select whether you would like to sample record the audio inputs or any of the audio outputs.

Sequencer record 2 bar count-in
If the Rec button is pushed, when the sequencer is stopped, to activate realtime recording, and the Play button is pushed after this, the sequencer metronome will now do a 2 bar count-in, before recording starts.

Sequencer tracks synth direct select
When a sequencer track is set to ”Int” (internal), it is now possible to select channel 1 to 16, and synth 1 to 8 (direct). When using synth 1 to 8 direct, you do not have to set up any MIDI channels or key ranges for the synths.
When a sequencer track is set to ”Ext” (external), the MIDI channel is still shown as the channel number and the output number.

Parameter select
To make it easier to figure out what parameters you will be editing with the 8 edit knobs, on pages that has more than 8 parameters, the ”Lowr” button is now always switched off, when switching to another page, so you will know, that you will always be editing the upper 8 parameters, right after this.
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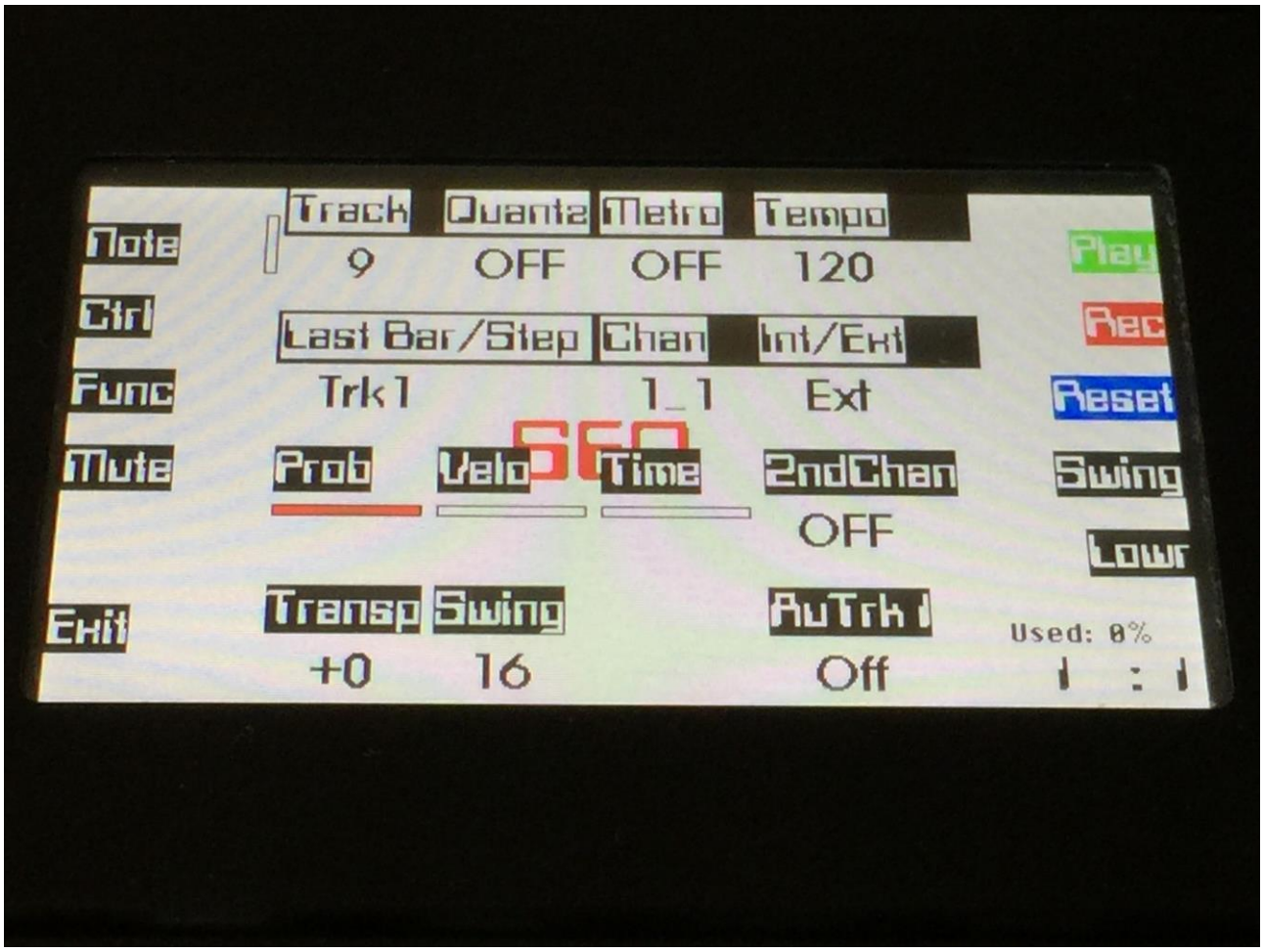
Sample Delete optimized
Sample delete has been optimized, so it is a little bit faster. If you delete the last sample in a sample bank, it is now very much faster.

Sequencer Tempo is now shown on the Preset Select screen

Some functions I forgot in the first manual are now explained
Sequencer Track Erase and Make Quantize Permanent, and EFX Freeze are now explained.

Audio Tracks



Sequencer track 9 to 16 can be switched to ”Audio Track” mode.

When a track are in audio track mode, it does not record MIDI notes. Instead, when you start realtime recording, it will record an audio sample from the source selected on the Sample Rec page (audio inputs or outputs), to the sample bank selected on the Sample Rec page.
When recording is done, it will save this audio sample, assign it to a synth, and place an audio track note event on the sequencer track, that will trigger this synth.

This will allow for, a kind of, 8 tracks of pattern based harddisk recording. The length of the audio tracks can be adjusted separately, even after recording, and presets can be switched without any pauses, no matter if they have audio tracks or not.

MIDI controller events can still be recorded on audio tracks, if you would like to control something on the synth, used for it.

Please notice though, that the audio track itself, is not using the MIDI channelizer system, so you will have to set this up manually, to point at the synth used for the track.

If you activate realtime recording, on an audio track that already has audio recorded to it, only MIDI controller events will be recorded.
To re-record and audio track, you must first erase it. To do that, with the audio track selected, hit the ”Rec” button. ”Reset” will now change to ”Erase”. Hit the Erase button.
Switch Rec off, and then on again, to record a new audio track.

To record an audio track, on the Sequencer main page, select a track number between 9 and 16. On these tracks a parameter called ”AuTrkx”, where x indicates a number between 1 and 8, will appear in the lower right corner of the screen.
The number indicates what synth will be used for the audio track.
Track 9 = AuTrk1, uses Synth 1.
Track 10 = AuTrk2, uses Synth 2, and so on…

Push the ”Lowr” button, to select this parameter, and use edit knob 8 to switch the audio track mode for the selected track ”On”.
At the moment you do this, the synth assigned to this audio track are initialized for the purpose. Tune is set to middle position and the filter mix parameter is turned fully up, to bypass the filters. The sequencer transpose control is also set to the neutral position.

Now, hit the ”Lowr” button again, so it is not activated, and use edit knob 5 and 6, to adjust the track length. The track length adjusted before recording, will be the audio recording length. You can though stop the recording at any time, before it reaches the track end, if you like.

Hit the ”Rec” button. If the sequencer is already playing back, it will now reset and start a 2 bar metronome count-in. If the sequencer is stopped, please hit the ”Play” button, to start the count-in. After the count-in, it will start to record the audio. It will record until it reaches the adjusted track end, or until you hit the ”Play” button to stop it.

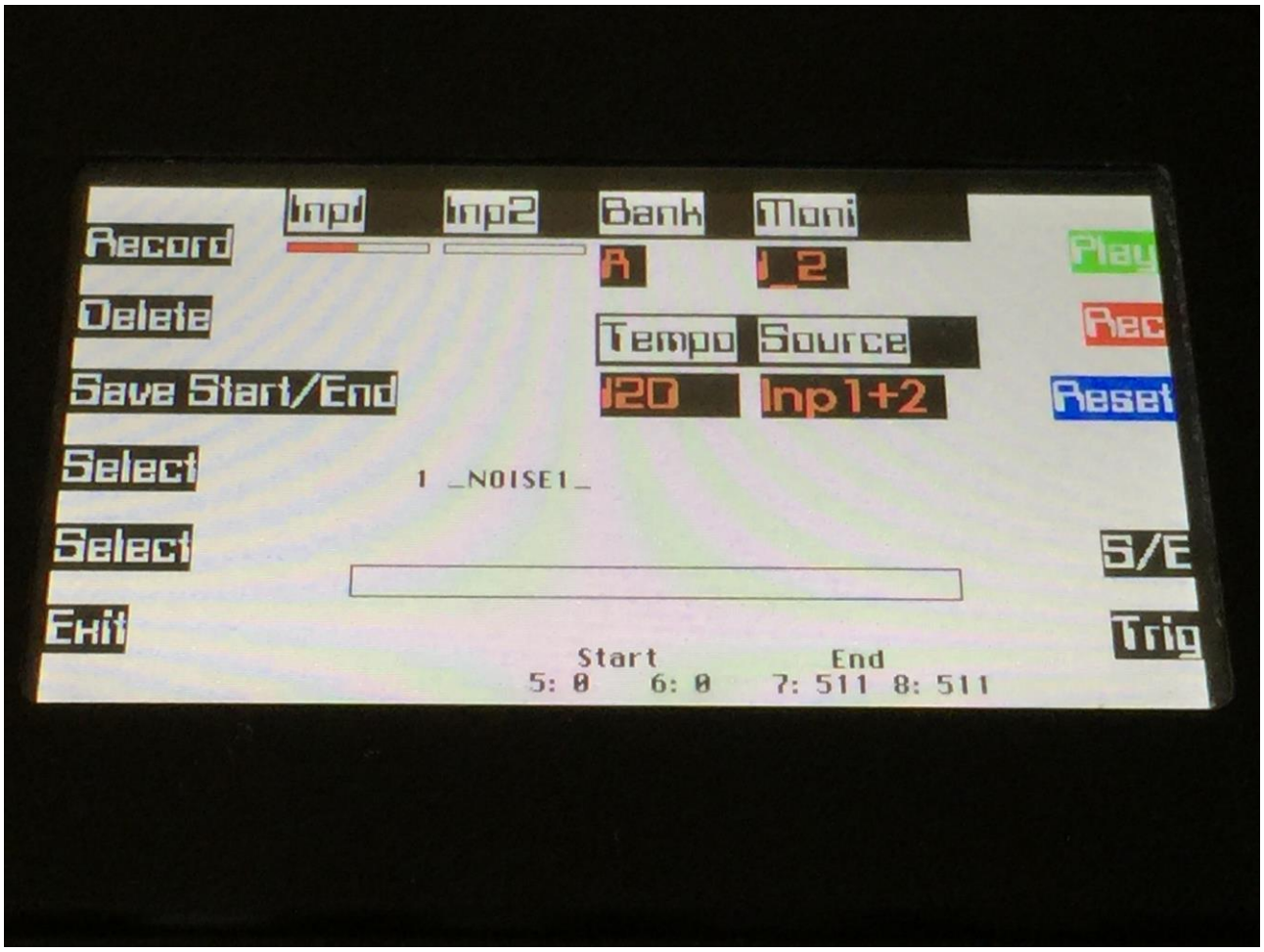
When the sequencer is stopped, after an audio track recording, the audio recording will be saved as a sampling with the name: AudioTr (preset number)-(track number), t.ex: AudioTr A01-12.
The sequencer tempo is saved together with the sample, as the sample tempo.
The sample tempo is used for calculating the start point, if you start playing back the preset from any other position, than position 0.0.0, and for calculating the rhythmical sample start point, if the Quantized Start function, explained later in this manual, is activated.

All audio track samples can be selected and exported, just like any other samples.

Using imported samples for Audio Tracks

It is also possible to use an imported .wav file sample as an audio track.

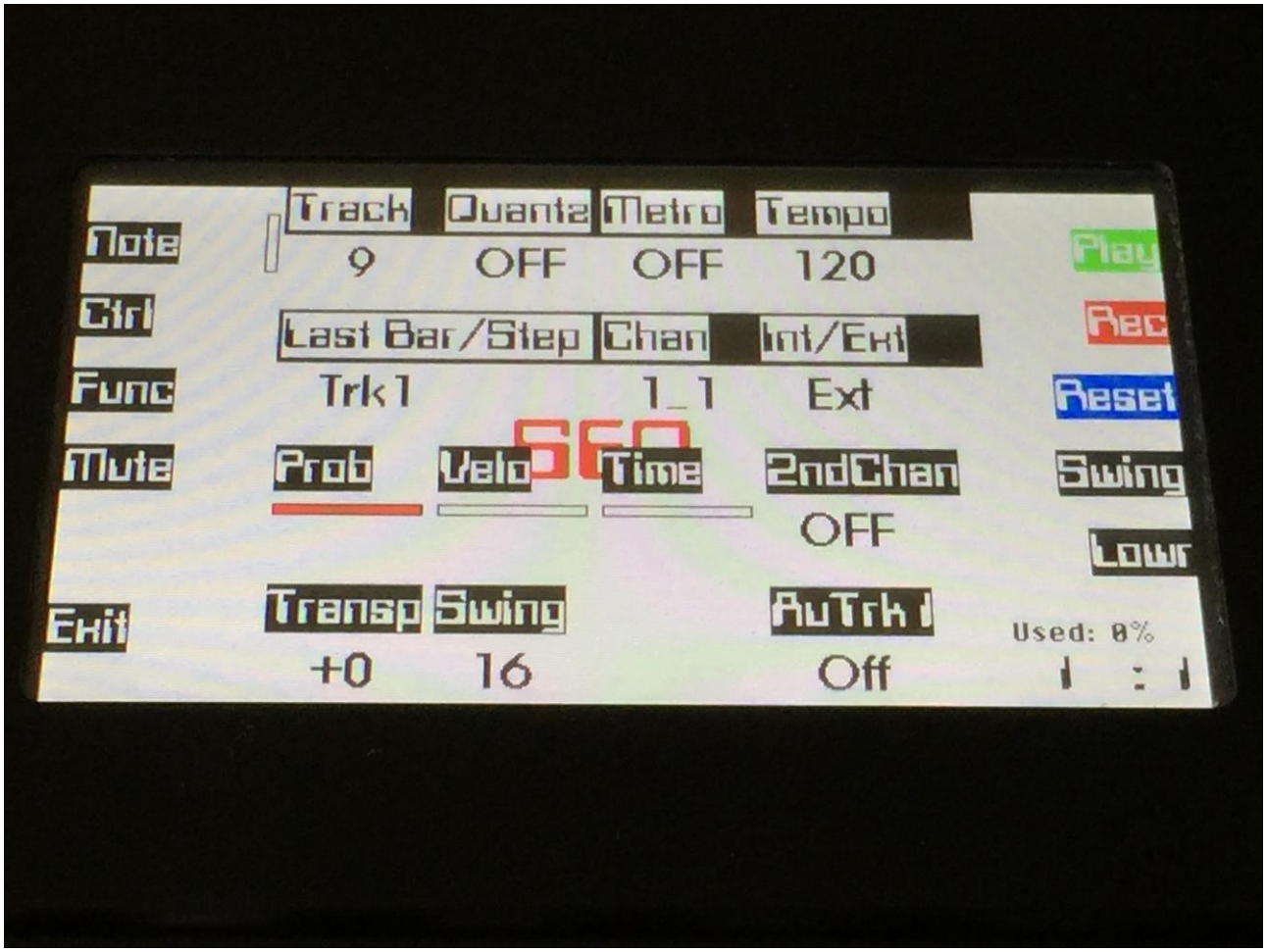
If you already know the tempo of the sample, you would like to use, you must first adjust this. After you have imported the sample via USB, go to the Sample Rec page:



Select the sample, using the ”Select” buttons. Adjust its tempo in BPM, using edit knob 7.
Push the ”Save Start/End” button.

If you do not know the tempo of the sample, please skip this step for now.

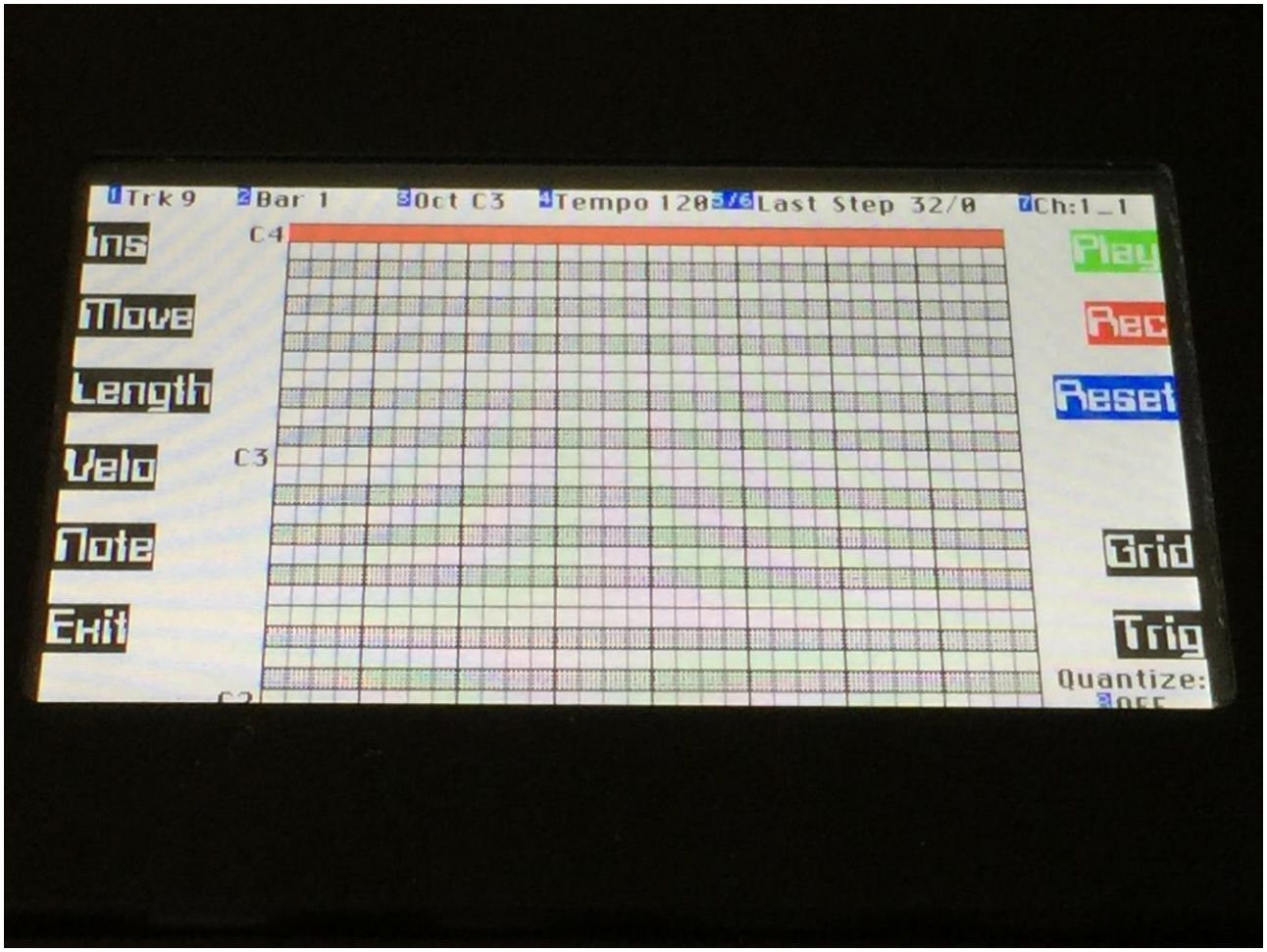
Now go to the sequencer main screen:



Select the track (between 9 and 16), that you would like to use for the audio track, and switch audio track mode on, as explained in the previous section.

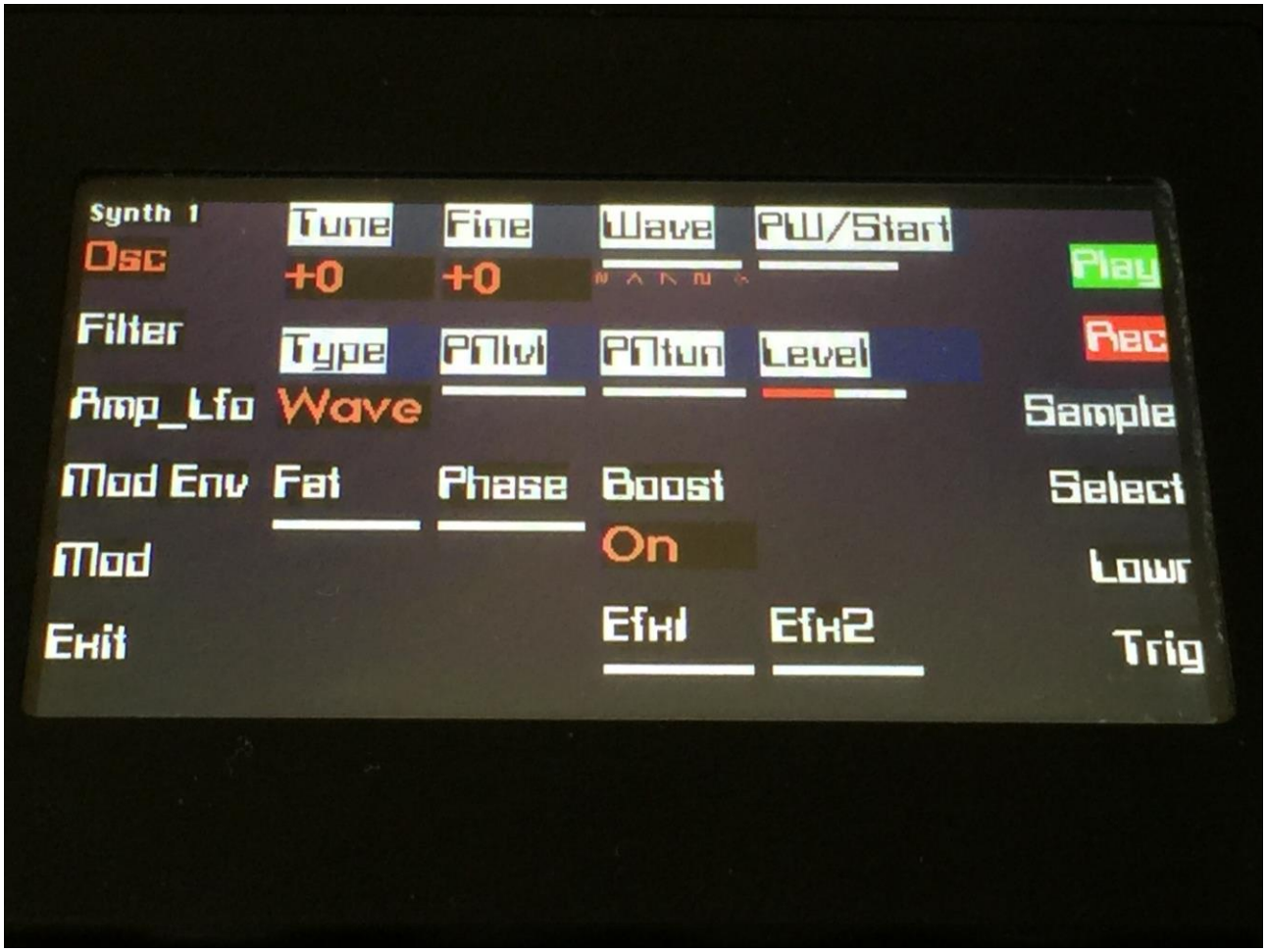
Adjust the track length.

Push the ”Note” button, to enter the note edit page:



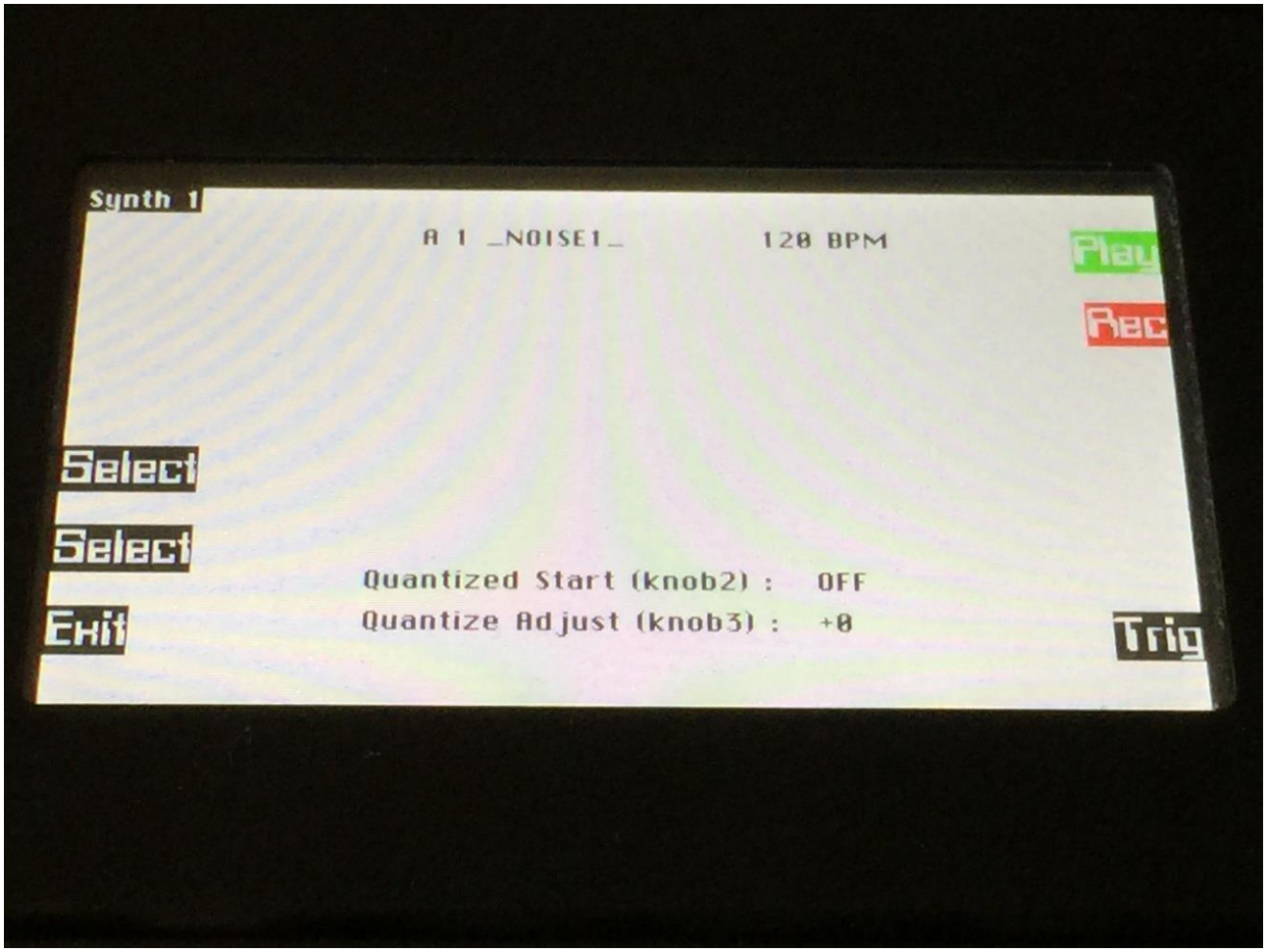
On this page, hit the ”Ins” button. An audio track note event will now be inserted, that eqauls the track length.

Go to the synth pages:



Select the synth used for the audio track. AuTrk1 = Synth1, AuTrk2 = Synth2 and so on….

Hit the ”Sample” button:



Select the imported sample, using the select buttons.

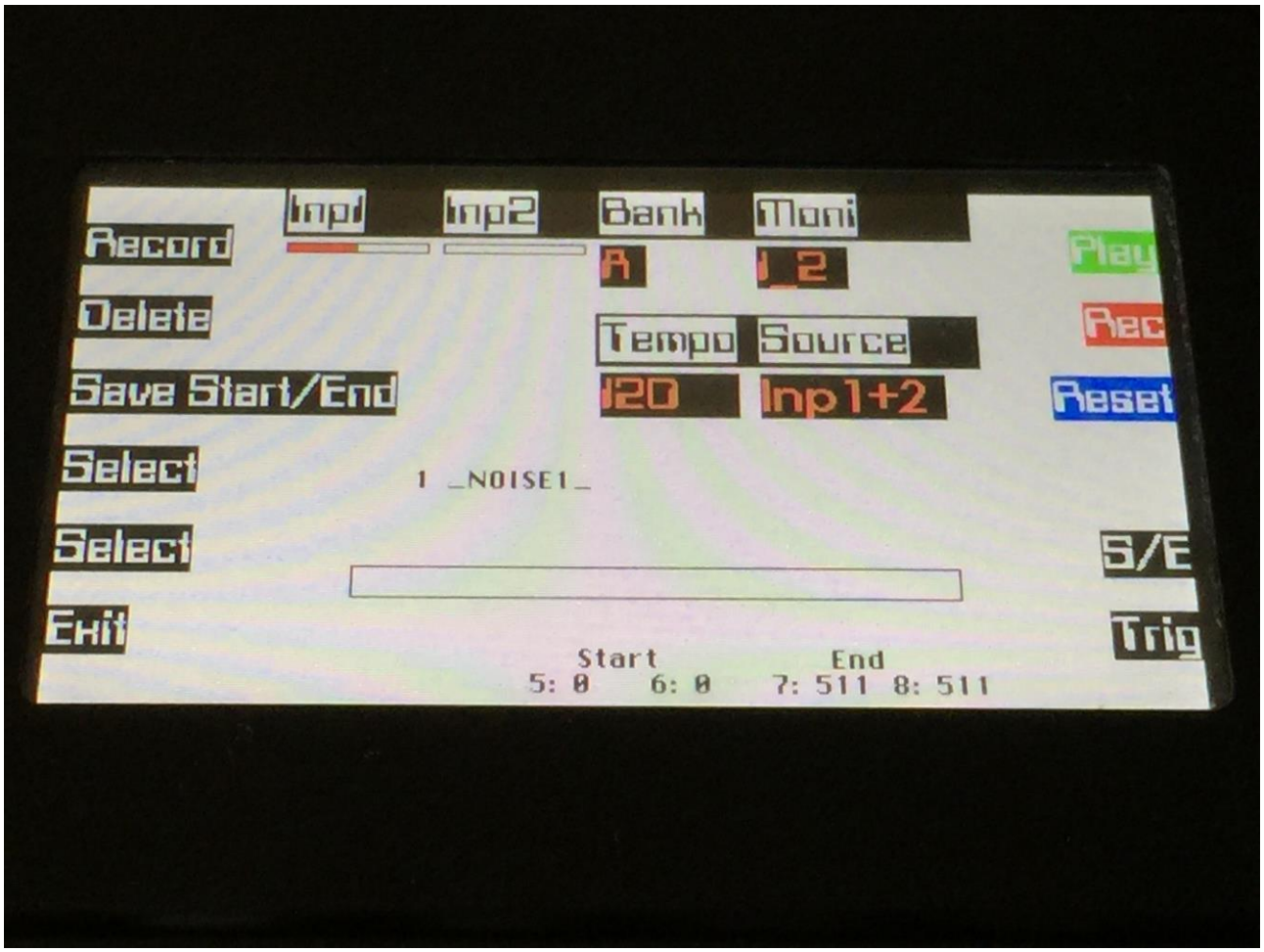
Push ”Play” to audition.

If you did not knew the sample tempo, now go back to the Sequencer Main screen, and adjust the sequencer tempo, until the audio track loops as it should.
When this is done, go to the Sample Rec page, adjust the sample tempo to the same as the sequencer tempo, and save it.

If the sample tempo is incorrect, the audio track will not continue from the right point, and the Quantized Start points will not fit. If these functions are not important to you, you do not have to bother about adjusting the sample tempo.

Sample tempo and quantized start (Remix)

All samples now has a tempo assigned to them. By selecting any sample on the Sample Rec page, its tempo will now be shown:



The sample tempo is set to the current sequencer tempo, when recording an audio track. On all other samples, you will have to set the tempo manually, if required. This should be done, if you plan to use a sampling as an audio track, or together with the Quantized Start (remix) function.

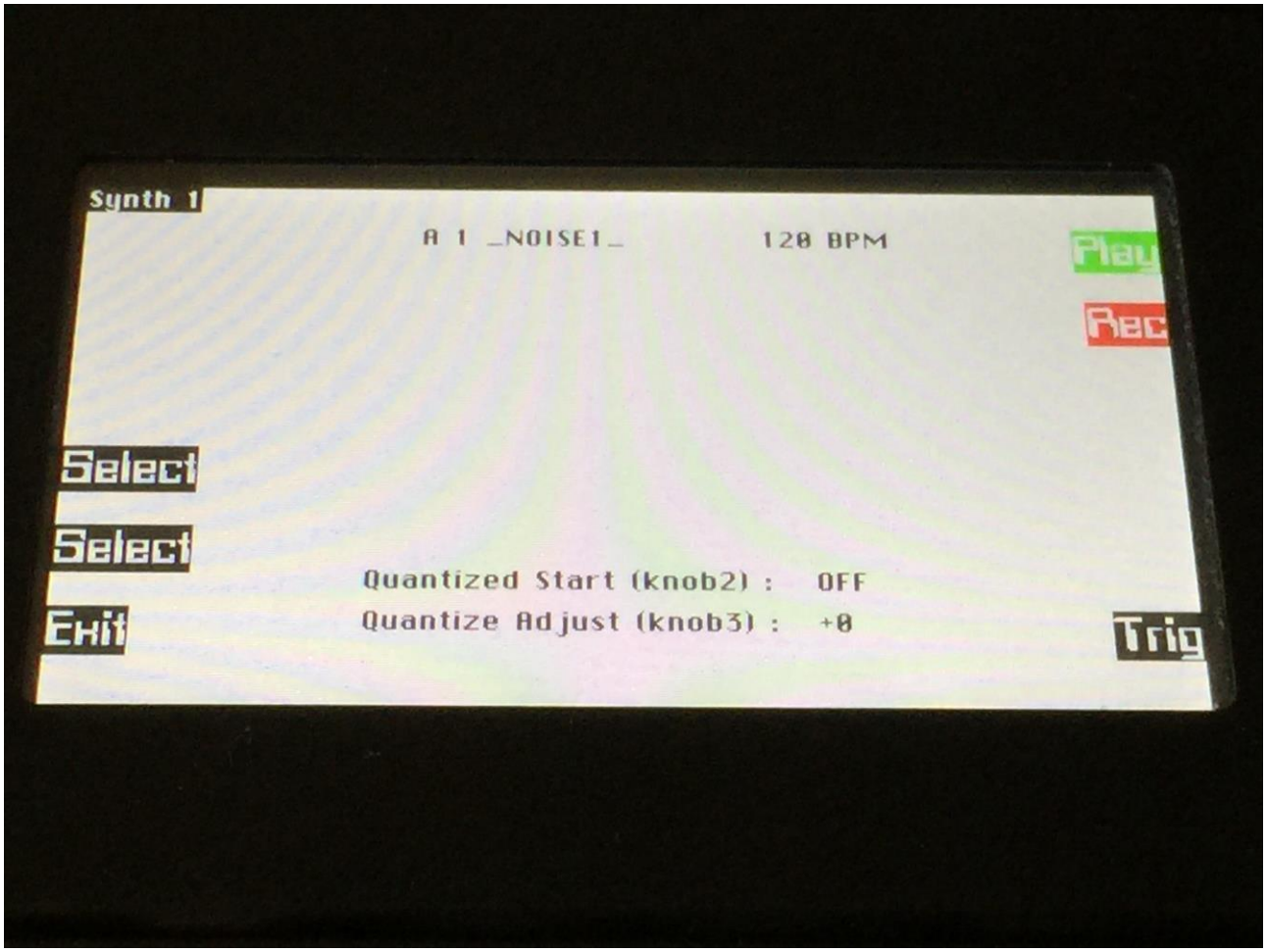
To set a samples tempo manually, simply use edit knob 7 to adjust the tempo between 1 and 300 BPM, and the hit the ”Save Start/End” button to save the tempo together with the sampling.

A sample, that has no tempo assigned to it, will be set to 120 BPM.

When a Fuzion sample are exported as a .wav file via USB, the sample tempo are now also exported, so if you import it again, the tempo will be restored.

Because of the added parameters on the Sample Rec page, you will now have to push the ”S/E” button, in order to adjust the start and end points of the selected sample.

On the sample select page in the Synth section, 2 new parameters has been added:



Quantized Start: Values Off, 1/32, 1/24, 1/16, 1/12, 1/8, 1/6, ¼ . When this parameter are at any other setting than Off, the PW/Start parameter will only jump to sample start points, that fits the selected rhythmical value. The sample tempo is used for calculating these points, so to make this function, the sample tempo should be adjusted to fit the actual tempo of the sample.
If a sample with a length of one bar, is quantized into 1/16 notes, this will give 16 start points. If the sample has a length of 2 bars, it will give 32 start points, and so on. The maximum number of possible start points to be selected, is 512. If a sampling has a length, that is caused by your settings to have more than 512 start points, only the first 512 start points will be used.

Quantize Adjust: Values –256 to + 255. Sometimes, if the quantized start points does not fit as they should, this parameter can be used to move the points forwards (+) or backwards (-).

To remix a sample recording

Make sure that Sample is selected as the synth oscillator.

Select the sample, you would like to remix.

Set the Quantized start parameter to t.ex. 1/16.

Set the PW/Start parameter in the middle position.

Set ”Velo” to modulate the PW/Start parameter, turn the amount fully up.

Program a series of 1/16th notes in the sequencer, on note C4 to get the original sample pitch.

Now adjust the velo values of each note, to select specific sample start points.

Adjust the notes, to re-pitch.

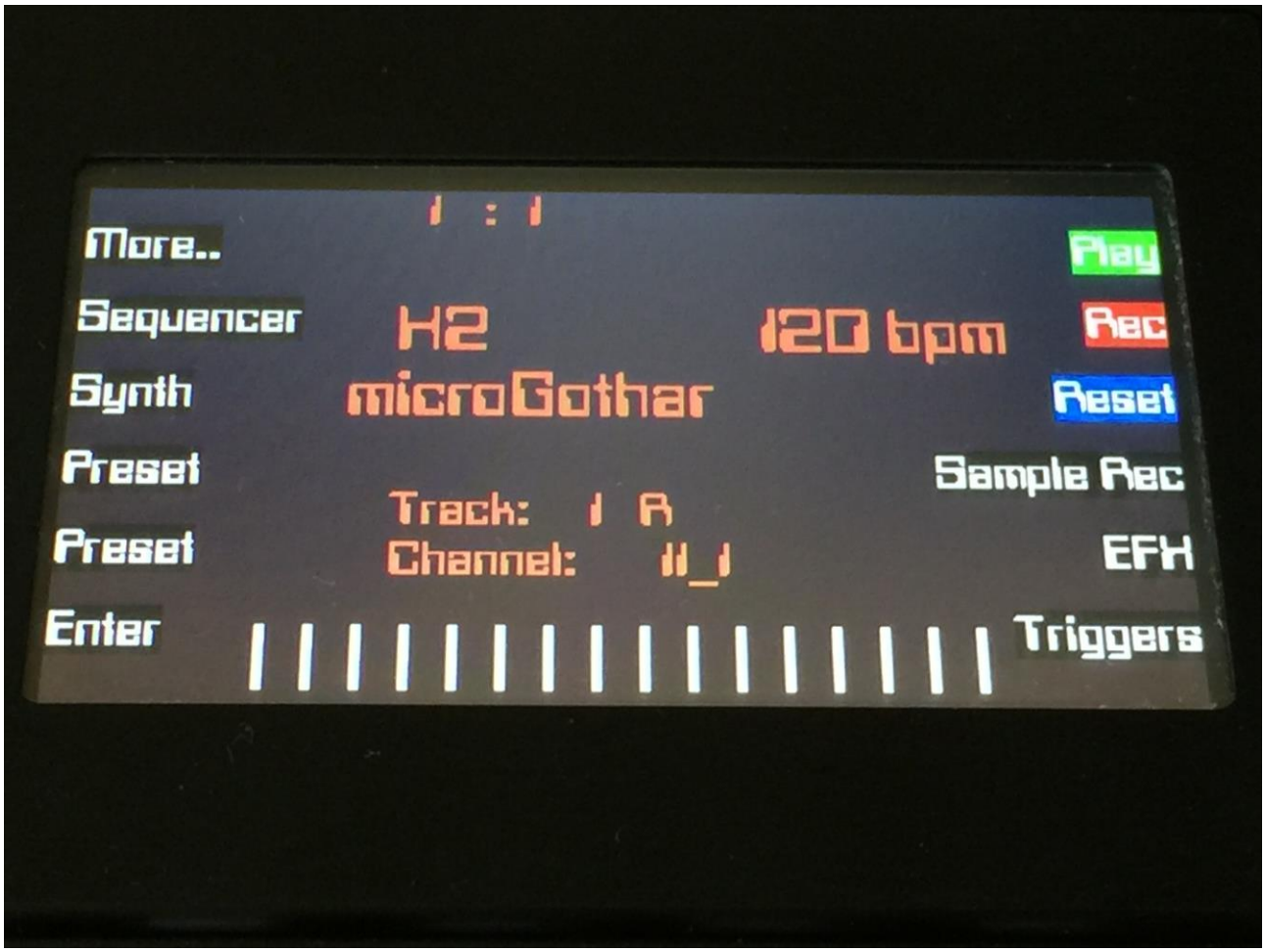
Modify the note positions, to change things rhythmically.

Add more variations to your remix, using the Note Randomizer.

All sequencer functions, that can be used on any other sequencer track, can of course also be used on the remix tracks, so please just release your creativity.

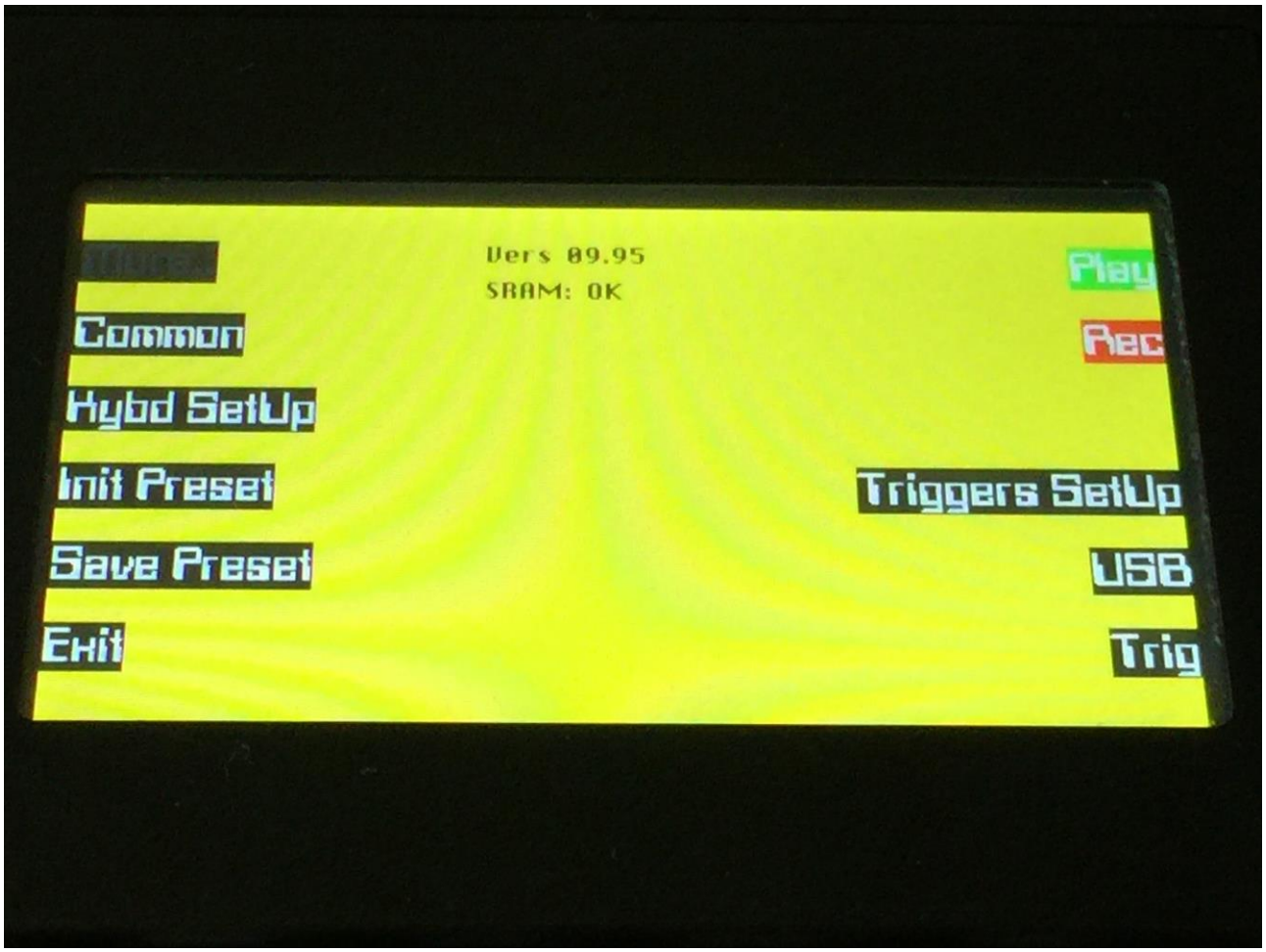
Synth Triggers

On the Preset Select page, the ”Trig” button has now been renamed to ”Triggers”:



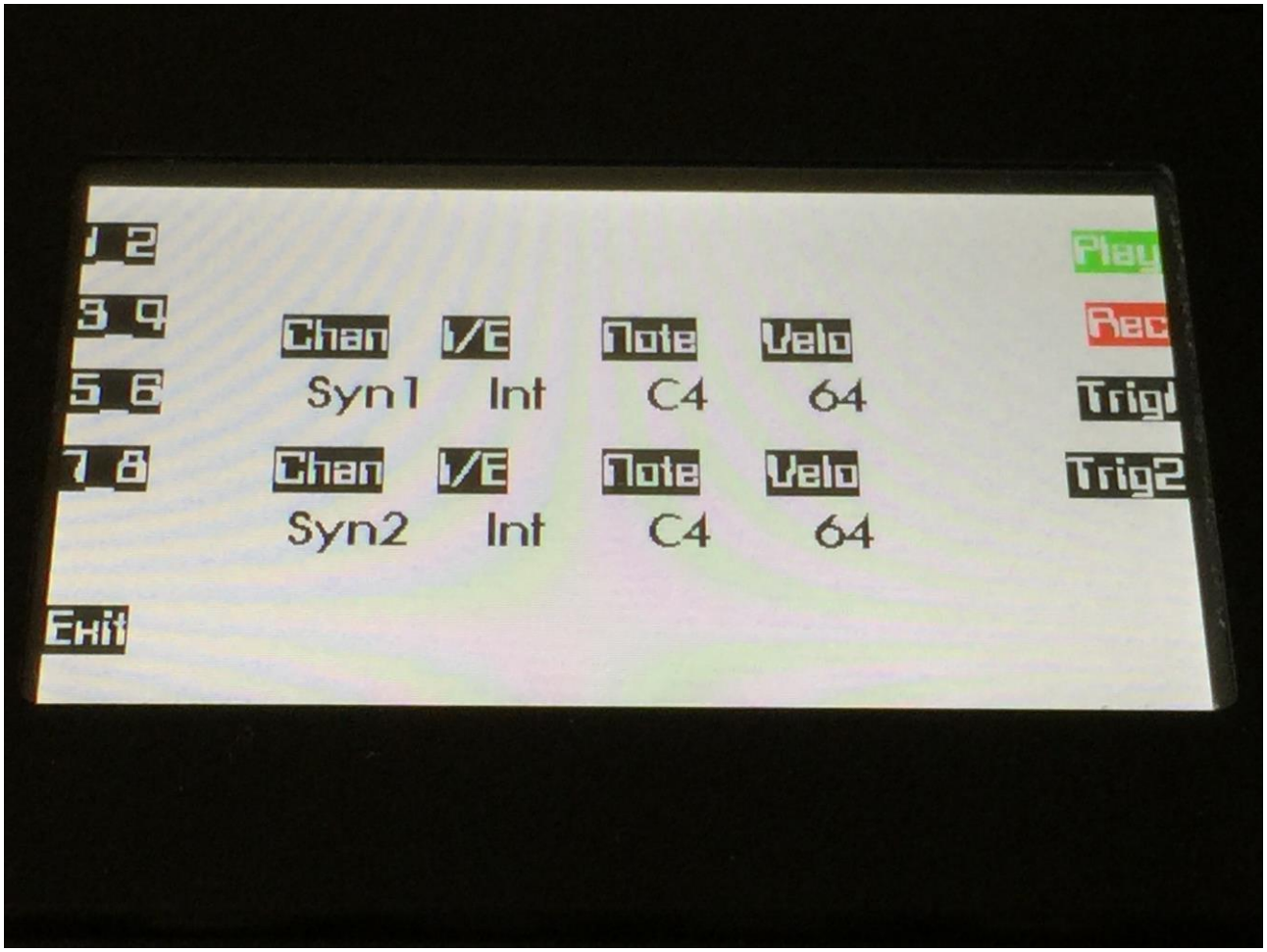
When you activate the ”Triggers” button, 8 of the pushbuttons can now trig internal synths, or external gear:

To set up what the 8 triggers should trig, first, from the Preset Select page, push the ”More..” button:



On the More page, a new button function has been added: ”Triggers Setup”.

Push the ”Triggers Setup” button, to enter the triggers setup page:



On this page, use the buttons ”1_2”, ”3_4”, ”5_6” and ”7_8” to select which 2 triggers, you will adjust.

Use the buttons ”Trig1” and ”Trig2” to audition the triggers.

By edit knob 1 to 8, you can adjust the settings for 2 triggers at a time. The settings are:

I/E: Select whether you would like the trigger to trig an internal synth (Int), or an external MIDI device (Ext).

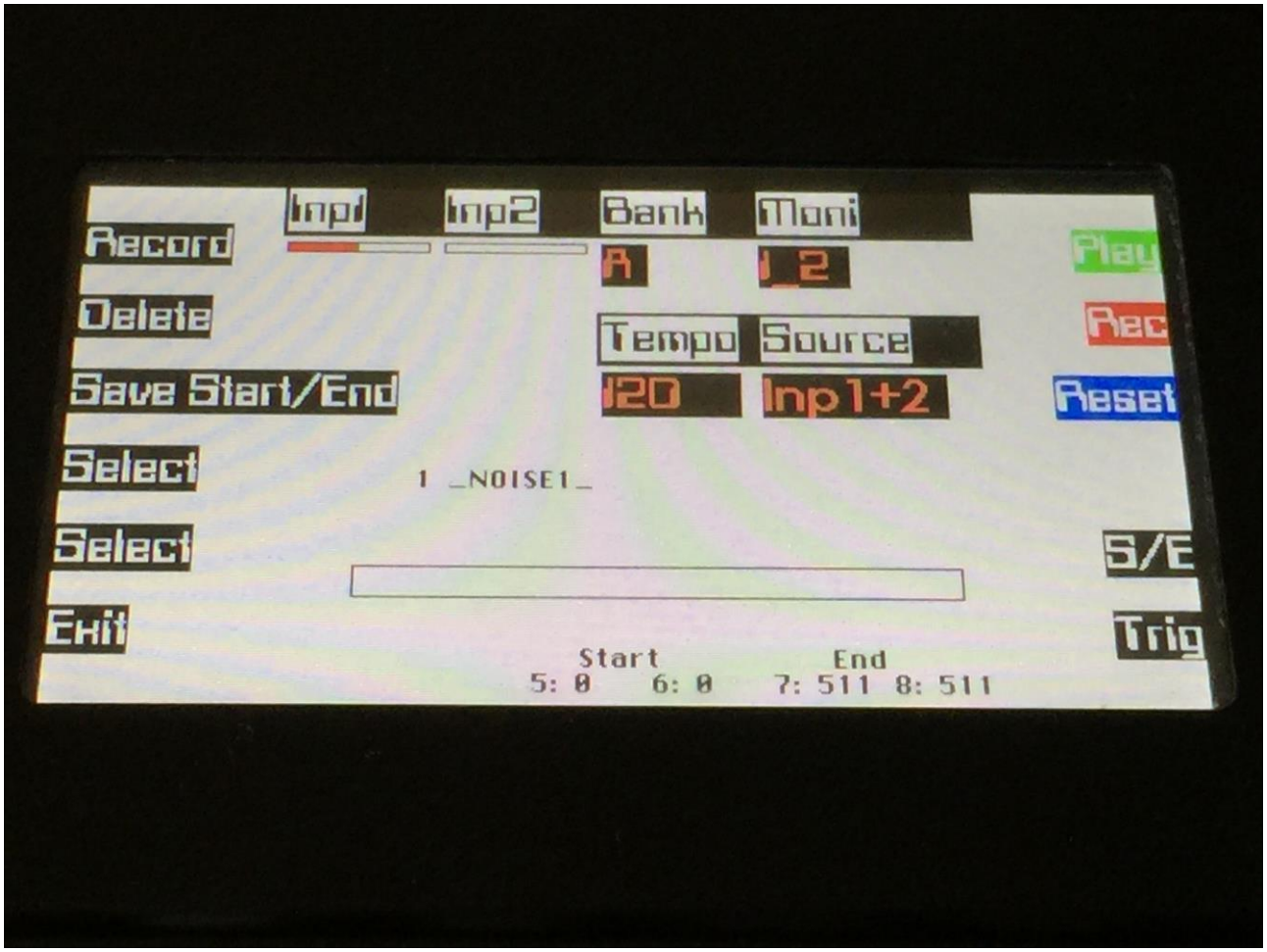
Chan: Selects the channel that the trigger is sent to. For external devices, MIDI channel and output are selected. The settings goes from 1_1 to 16_1, and from 1_2 to 16_2.
For internal synths, the settings goes from channel 1 to 16, and from synth1 to synth8 (synth direct).

Note: Select the note you would like the trigger to play. The whole 10 octave MIDI note range can be selected. C4 is the middle C.

Velo: Select the velocity value, you would like the trigger to send. Value 1 to 127.

Sample source select

On the Sample Rec page, it is now possible to select whether you would like to sample record the audio inputs or any of the audio outputs:



Before you start sample recording, select the sample source, using edit knob 8. The choices are:

Inp 1+2: Audio In 1 and 2 mixed.
Inp 1: Audio In 1 only.
Inp 2: Audio In 2 only.
Outp 1: Whatever is present on Audio Out 1.
Outp 2: Whatever is present on Audio Out 2.
Outp 3: Whatever is present on Audio Out 3.
Outp 4: Whatever is present on Audio Out 4.

Sequencer record 2 bar count-in

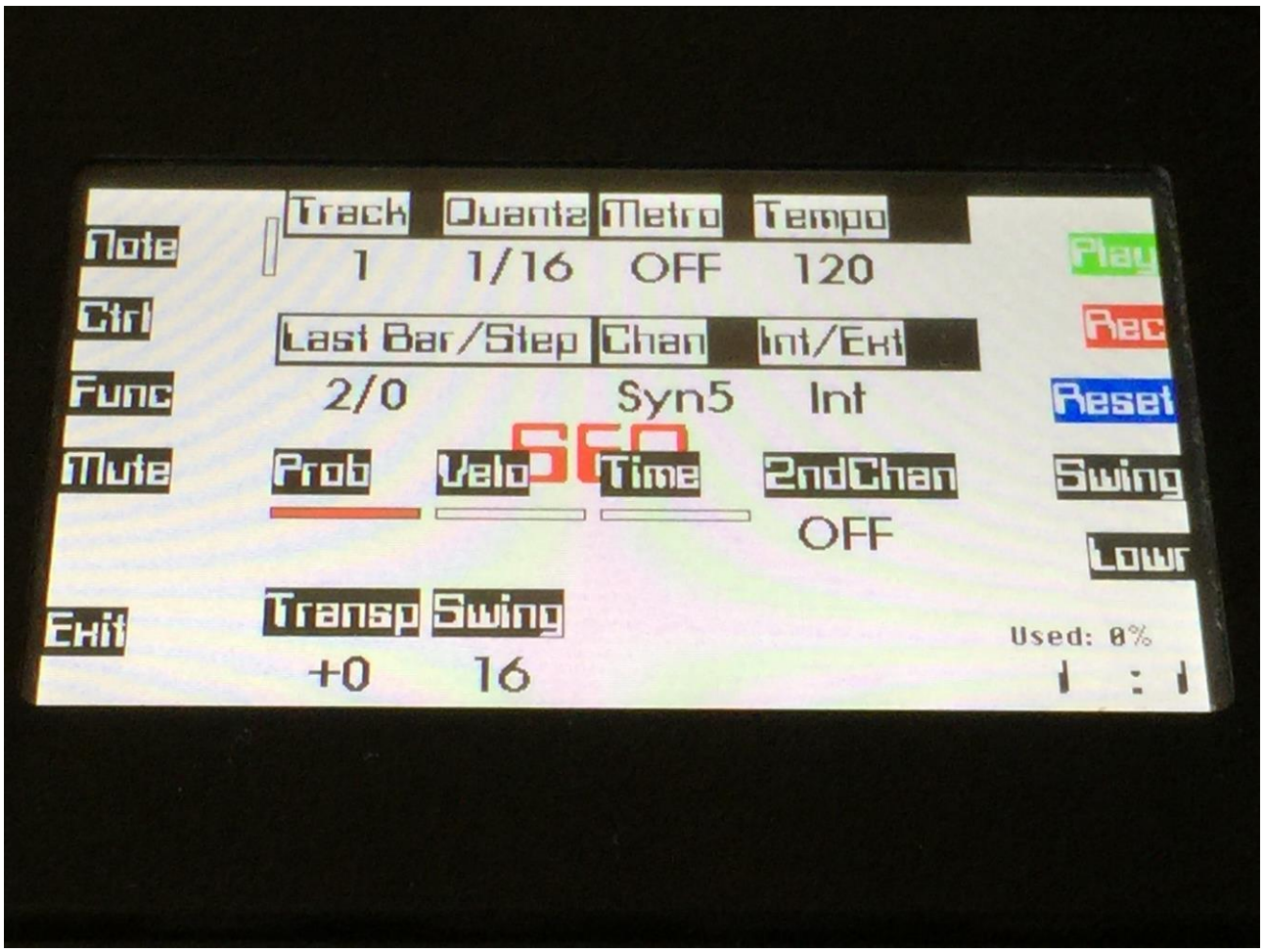
If the Rec button is pushed, when the sequencer is stopped, to activate realtime recording, and the Play button is pushed after this, the sequencer metronome will now do a 2 bar count-in, before recording starts.

If the Rec button is pushed, while the sequencer is playing back, the sequencer will immediately enter realtime record mode, without any count-in, on MIDI note tracks.

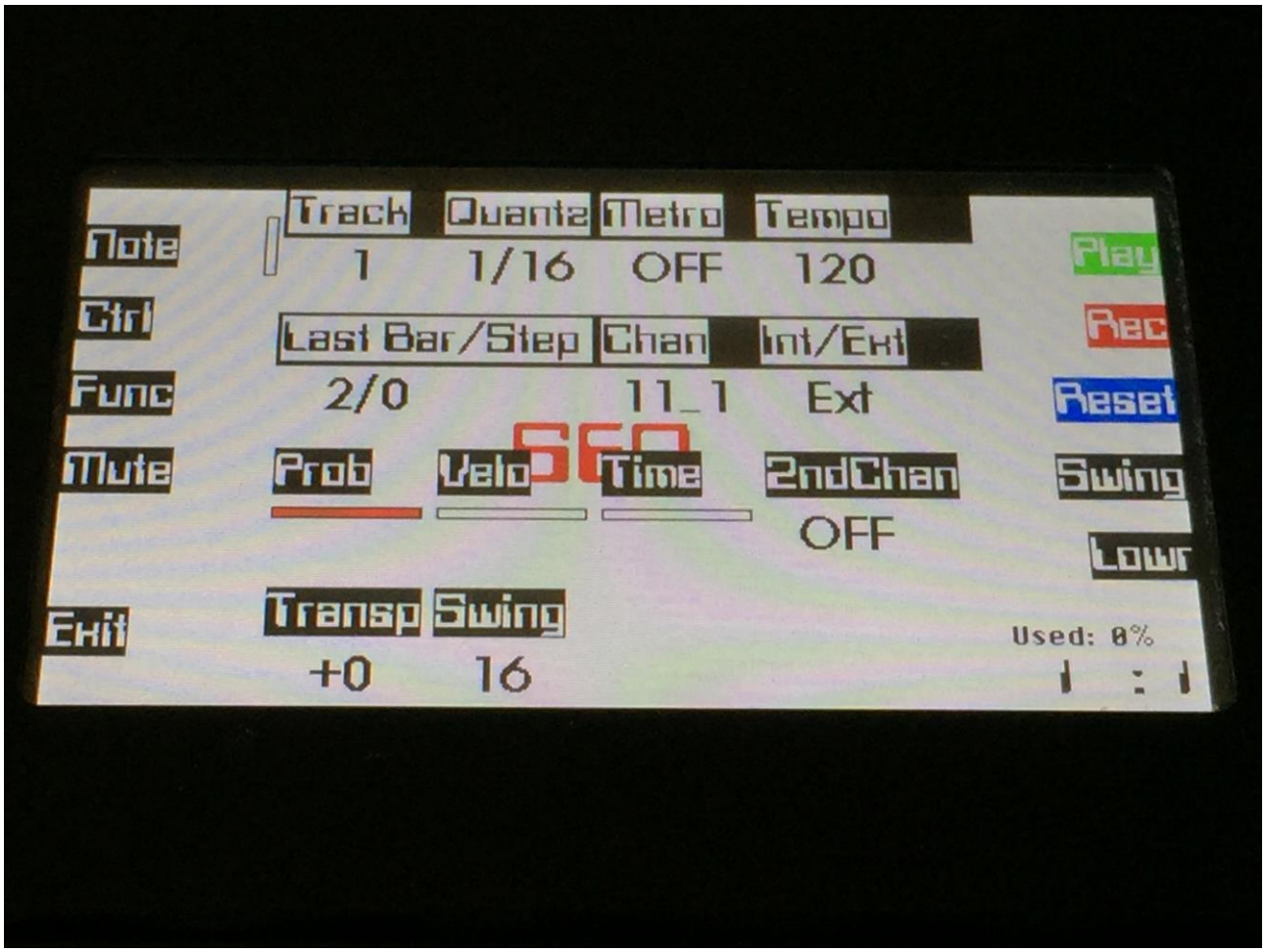
On Audio Tracks, pushing the Rec button, will always cause the sequencer to reset to position 0.0.0, and initiate the metronome count-in.

Sequencer tracks synth direct select

When a sequencer track is set to ”Int” (internal), it is now possible to select channel 1 to 16, and synth 1 to 8 (direct). When using synth 1 to 8 direct, you do not have to set up any MIDI channels or key ranges for the synths. The track will just be channellized directly to the synth, and use the full 10 octave MIDI key range.
When using the synth direct channellizing, it is though not possible to set up the internal synths in layers and key splits/overlaps. If you wish to do so, you must use the internal channel 1 to 16 channelizing, and set up the channels and key ranges for the synths you wish to use.



When a sequencer track is set to ”Ext” (external), the MIDI channel is still shown as the channel number and the output number, as it was before this update.



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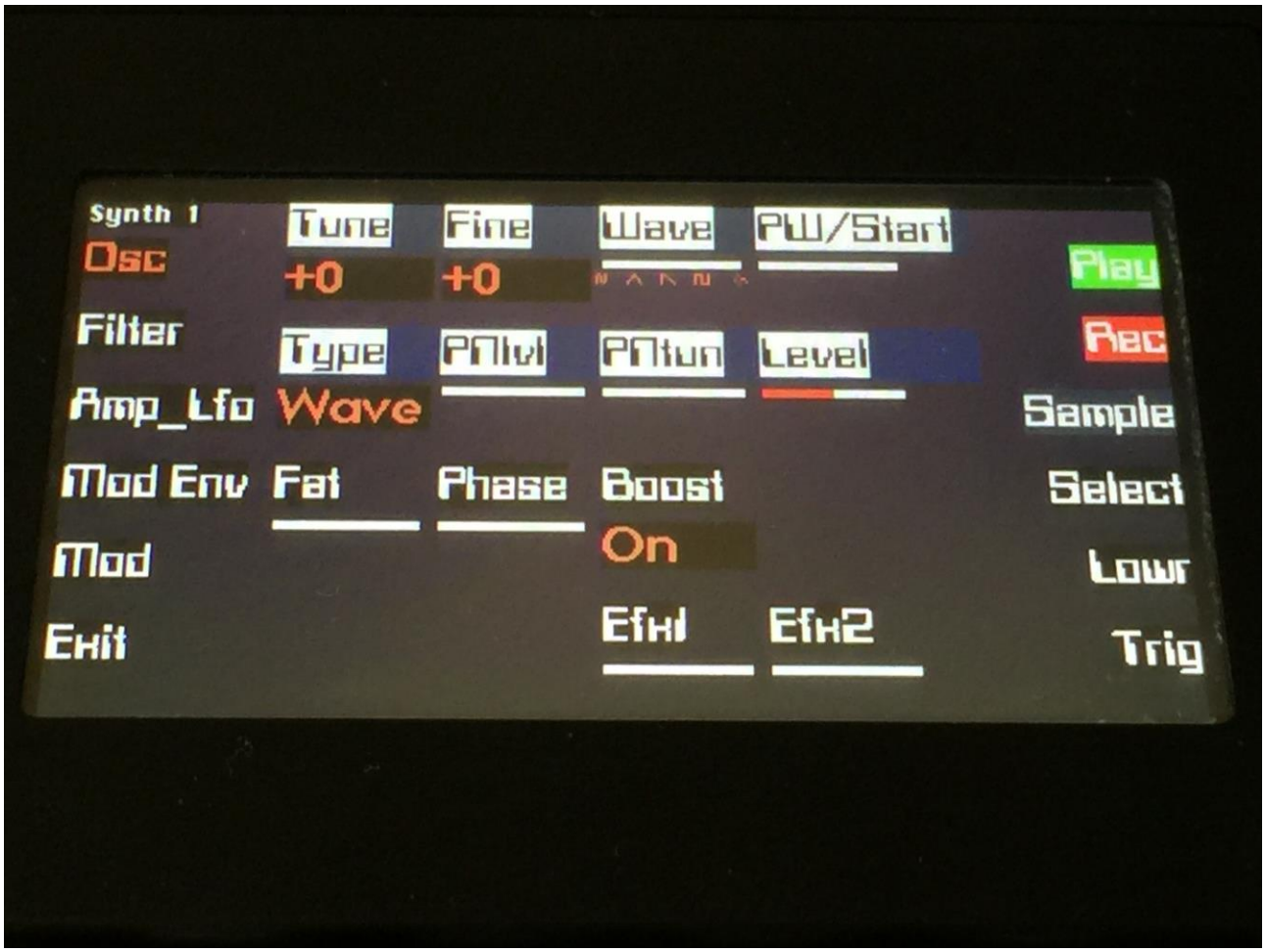

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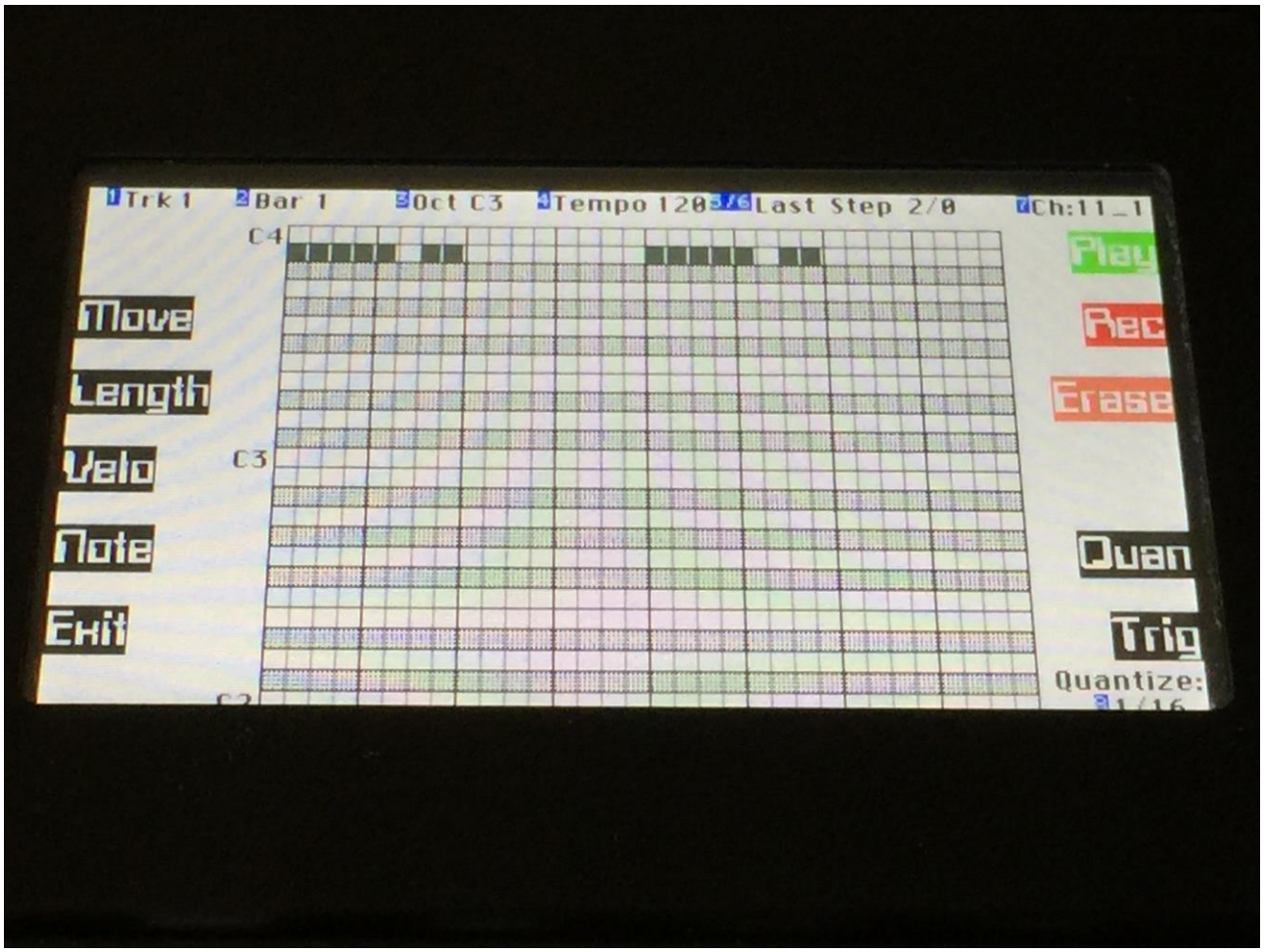
Sequencer Track Erase and Make Quantize Permanent



On all pages, that has the ”Reset” button, this is changed to ”Erase”, when the Rec button is active.

Pushing the ”Erase” button, will erase the entire content of the currently selected sequencer track.

On the Note Grid page, ”Grid” will change to ”Quan”, when the Rec button is active.

Pushing the ”Quan” button, will re-save all note events on the currently selected track, positioned using the currently selected Quantize setting.

EFX Freeze button

All the global effects has a ”Freeze” button. When this is active, the selected effect stops sampling the input signal applied to it, and only plays back the content that is already sampled to its buffer.

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