

THE SEQUETRON OVERVIEW

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1. INTRODUCTION

What if you could record & multi-track directly on your music keyboard while you are playing it, **without ever touching a computer keyboard or mouse**?

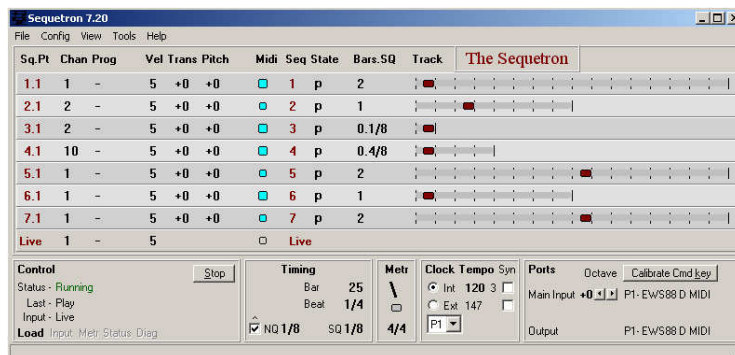
The Sequetron is a program with a twist; designed as a **live instrument** for hands-on use, all played & controlled from where your hands are - the **music** keyboard. It runs from switch-on with no interaction, and converts the simplest MIDI keyboard into a multi-track recording, playback & looping instrument.

You may be tempted to compare it with conventional sequencers with more powerful editing & audio features, but their MIDI control systems tend to be added as an afterthought; either using dedicated keys, or keys which mimic windows-based operations.

The Sequetron takes a fresh approach by *first* designing a command language around the keys on a music keyboard, *then* writing a program to interpret it. The computer now takes a back seat, so it really is a different concept...

...a front-end instrument for ideas & inspiration... and fun!

The screen is used for configuration & maintenance; it provides status info and customary flashing lights during normal operation... but is not essential.



The input can be any simple MIDI keyboard, and the output can be any MIDI device(s) such as synthesizers, drum machines, light displays etc.

Sequences can be recorded, played back, looped and altered (channel, velocity, pitch, mute etc.), either individually or in any combination, but unlike hardware sequencers, there is no concept of 'steps', nor do the sequences have to be monophonic; any notes & chords can be used. They can also be saved to standard MIDI files for further processing by other programs.

This ability to record, play & alter different length sequences starting at different times *on-the-fly* gives the Sequetron its unusual syncopated feel, encouraging you to experiment with overlaying and controlling patterns; even the most basic 1, 2 or 3-note sequences can create something totally unexpected.

Demo video & audio clips are on YouTube & Facebook (search for Sequetron), or via the www.philizound.co.uk web site.

Read on for more details, or try the Quick Start now...

2. TERMINOLOGY

Sequences (or 'seqs') hold a series of MIDI events similar to 'tracks' in other programs. The term was adopted as 'the tracketron' just wasn't right!

Sequences are either running or stopped. The term 'playing' indicates seqs running in an un-muted state, as opposed to 'muted', which means running in a muted state.

3. OPERATION

The PC keyboard & mouse can optionally be used to pre-configure the Sequetron, but once it is running, *all* control & playing is done on the MIDI keyboard. The MIDI keys can function as any or all of the following:-

Playable notes, recordable notes, commands, sequence-selects, command values.

These functions can be overlapped and mapped to keys anywhere on the keyboard to suit your playing style or left/right handedness. You choose which functions you want to use and which to ignore, allowing you to simplify operation or to save space on small keyboards. A template is available for overlaying the keyboard with these functions.

The keyboard operates in several modes which affect how the keys are interpreted:-

- Live mode: all keys except the nominated cmd key will play live.
- Command mode : keys select sequence(s) and/or command reqd.
- Value modes: keys select values for current command, e.g. bpm for tempo.
- Record mode: all keys except the nominated stop key(s) will record onto the selected sequence(s).

When first started and running, the keyboard will be in **live** mode, so you can play any keys as normal, with the exception of the designated cmd key. When you press this key, the keyboard instantly flips to **command** mode, where you can optionally press one or more 'sequence-select' keys prior to pressing the reqd. command key. Any selected seqs will be the target of the command.

If the command requires no further data, such as play, it takes effect immediately and the keyboard reverts to live mode automatically, so you can continue playing along with the seqs you've just started.

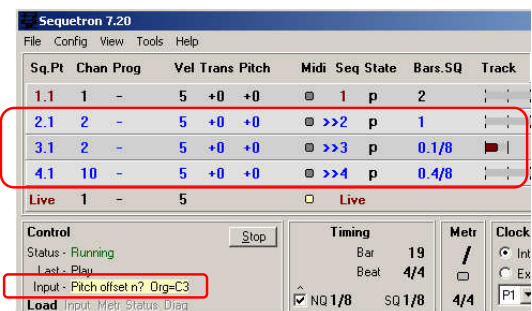
If the command *does* need further data, such as tempo, which needs a bpm value, the keyboard flips to the appropriate **value** mode, where your key presses are interpreted as ranges of values, after which the keyboard flips back to **live** mode.

Pressing the esc key any time will escape/abort the operation and return to live mode.

Sequence-selection follows logical rules to minimise key-presses; some commands, such as tempo and pitch, will automatically select *all* sequences if you don't select any before pressing the command key. Other commands, such as record, won't work unless you select at least one sequence.

The tags & colour on the display show which seq(s) will be the command target. Here, seqs 2, 3 & 4 are the target of the pitch command.

The Command Reference gives a full description of each command.



The command process has been designed to allow single-handed operation where possible. You only need to press a key to register it; there is no need to release it before pressing the next, so the standard command sequence:

cmd, [seqs], command, [values]

becomes more like a rolling chord. As long as you press the keys in the correct order, the command will work. This minimises the time spent out of live mode, and after a while you will become very slick at issuing commands in the middle of playing live, all of which encourages experimentation and improvisation.

The flexible key-mapping system allows you to choose which functions you want to use and to map them anywhere on the keyboard to suit your left/right handedness and playing preferences. The maps can also be moved at run-time to track octave shifts on your MIDI keyboard.

The whole command process takes only the briefest of pauses during live playing. There are no distractions from your music while the Sequetron is running, as you never need to touch the PC keyboard or mouse. There are no pop-up windows or menus to navigate; the screen is only used to provide status information. After some practice you will find you can record, loop & play without looking at the screen or template (early versions had *neither*, although it had less functions then!), and as with any other new instrument, it may seem complex at first, but the more time spent learning to master it, the more rewarding the results.

4. PLAYING SEQUENCES

The Tutorial shows detailed examples of playing sequences, but the basic operation is to press the following keys in order:-

cmd key, one or more sequence-select key(s), 'play' key.

Several play command variations are available, e.g.

- the basic **play** command starts the sequence(s) and repeats/loops them when they reach the end of their cycles
- the **play-mute-4** command plays & mutes every 4 cycles
- the **mute-play-8** command mutes & plays every 8 cycles, etc.

See the Command Reference for a full list and choose a subset for your keyboard. All sequences are independent of each other and can be of different lengths (as defined during the record process).

5. METRONOME

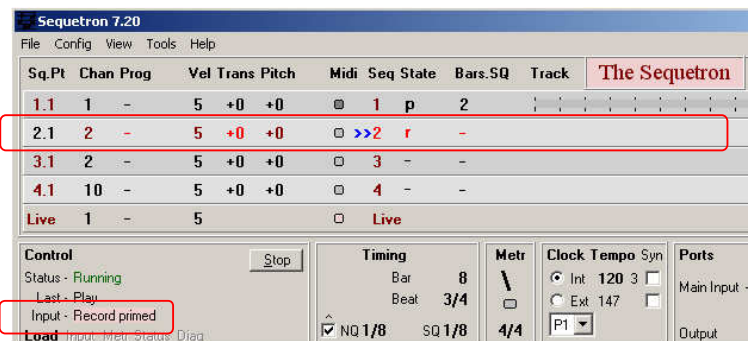
The visible metronome is always running, but one of the sequences can optionally be nominated as an *audible* metronome by checking its Metr box. Whenever Run is clicked, or the time-signature or metronome notes are changed, the audible metronome is rebuilt with a one-bar metronome pattern, overwriting the nominated seq. Apart from that, it can be loaded, recorded & processed like any other seq.

6. RECORDING SEQUENCES

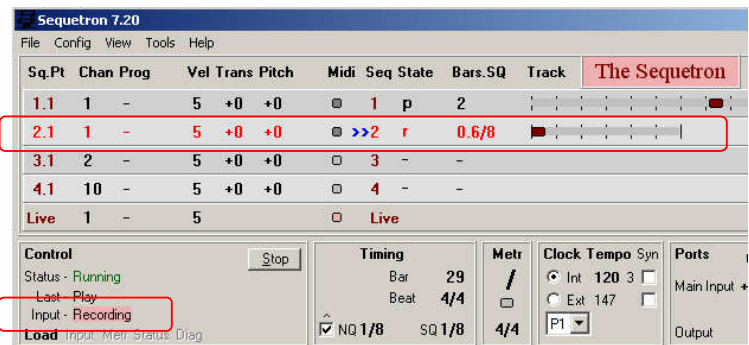
The Tutorial shows detailed examples of recording sequences, but the basic operation is to press the following keys in order:-

cmd key, one or more sequence-select key(s), record key,
notes to be recorded, 'stop/play' key.

When the record key is pressed, the program enters 'record primed' mode and will wait for your first key press to start recording.



Once you press the first key, the recording will commit and continue until you press one of the 'stop/play' keys (see later).



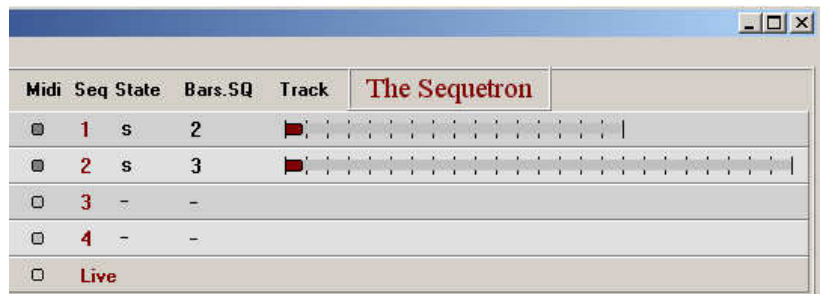
If your first key-press is a 'stop/play' key other than esc, then the recording will commit and rests will be recorded at the start; more details are in the Command Reference.

The light grey bars indicate the relative sequence lengths. They scale in width automatically so the longest seq spans the full window width (you can stretch the window to show more track area).

This seq 2 recording was a third longer than seq 1.



For more accuracy, you can use the View menu options to add a numerical length column, and/or overlay a marker grid.



The length of the sequence is defined from the first key-press to the time the 'stop/play' key is pressed, so if you synchronise all this to the metronome, the sequence(s) will loop perfectly. Sequences can be any length; you decide on-the-fly. Even a single note or chord stab will do, and you can experiment 'playing' these short seqs using the pitch-mode command, e.g. the intro from The Who's 'Won't Get Fooled Again'!

7. STOP/PLAY KEYS

If you have mapped an esc and stop function in record mode, then pressing either will end the recording, and the recorded sequence(s) will remain stopped until you start them later.

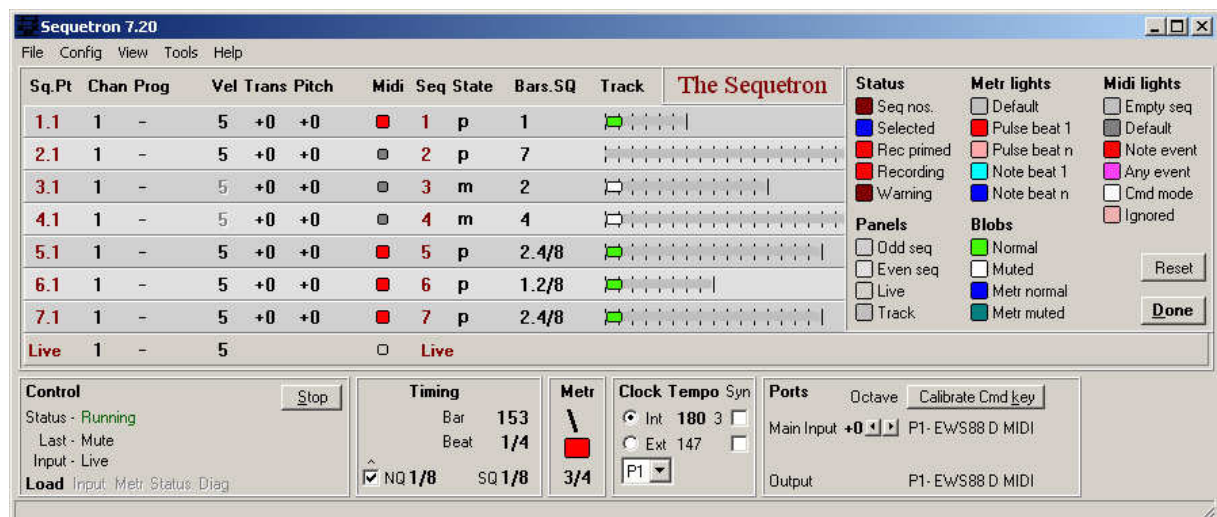
If you have mapped any of the play-x or mute-x functions in record mode, then pressing these will end the recording, but the recorded sequence(s) will immediately start playing according to the actual play-x or mute-x key used. This is a great effect as it seamlessly loops whatever you play the instant you stop recording, leaving you to continue playing in live mode.

If you want to use the mute-x functions, you need to be adept at recording accurately (the length column and/or marker grid is useful here), as the recorded seqs will run muted for x cycles before un-muting, so you won't be aware of any recording mistakes until later... although some great riffs were born from 'accidents'!

The esc, stop, play-x & mute-x functions in record mode are **not** the same as those in command mode; they can be mapped independently. The factory settings map 3 of the record functions (esc, play & mute-2), so the remaining keys are recordable. Although they could be mapped anywhere, they are mapped to the esc, play & mute keys in command mode to simplify the template.

8. COLOURS

Screen colours can be configured to taste (full version only); click Config, Colours. More items can be coloured by editing the configuration file.

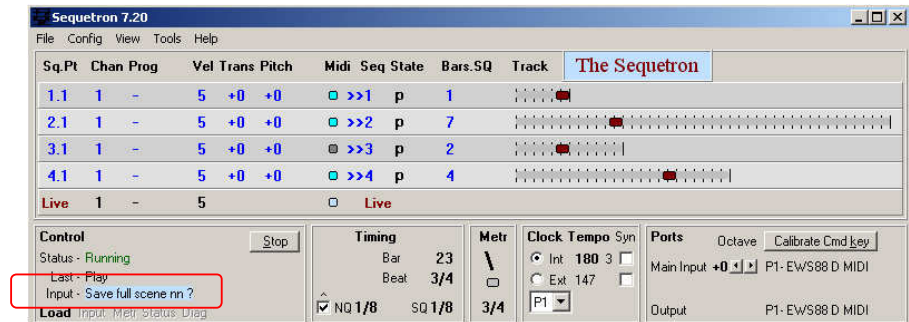


9. SAVING & LOADING MIDI FILES

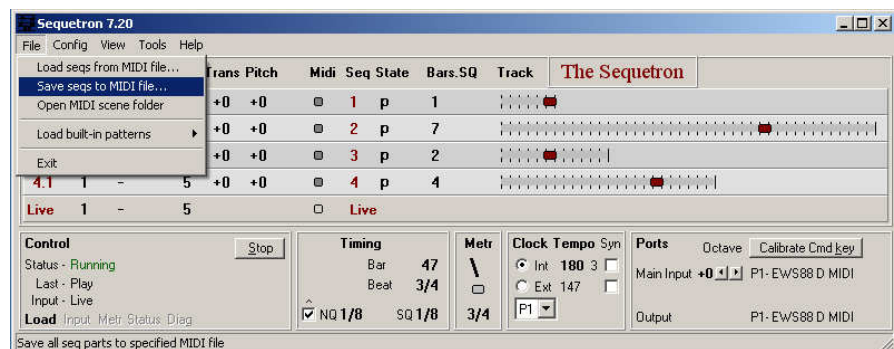
You can save/load your seqs to/from standard MIDI files via run-time commands or the on-screen menu.

The run-time commands use a set of automatically named files called 'scenes', suffixed with a scene number. When the program is first started, you will be asked to confirm the top-level folder to hold these.

The run-time commands select all seqs by default and perform a full save or load of all parts for all seqs; see the Advanced Operation guide for exceptions.



The menu command File, Save & Load... allow any file names to be used, including the above scenes or external files from other programs. Files can also be loaded by dragging & dropping onto the main window.



The menu commands always perform a full save & load of all parts for all seqs; see the Advanced Operation guide for exceptions.

Currently this save/load process only handles standard MIDI events, and does not save & restore the complete Sequetron state. Some items are saved in the config file, but performance-related values such as seq start times, cyclic counts, sweep limits, active part no. etc. are not yet preserved.

Note: If you load data into a sequence which is nominated as the audible metronome, the metronome pattern will overwrite the data when it is rebuilt unless you uncheck the Metr box. The audible metronome seq is rebuilt whenever Run is clicked, or if the Time-Sig or Metronome Notes are changed.