You can also make unusual note lengths because the count of how much to extend a note by goes from the current cursor location.

So, if you want to make a note that is three columns long (equal to a dotted quaver), simply press **Space** to create a note, then **Q** to make it a quaver.

Now move one place to the right and press **Q** again.

Adjusting the velocity

The velocity is how hard the note is played. Roughly, this correlates to the note volume as notes played more softly are quieter.

When you are entering music by pressing **Space**, the notes are given the default velocity (which is 80 unless you have altered it). When playing notes on a piano, the notes receive the velocity information from the piano.

You can change the velocity of a note by setting the highlight to the beginning of the note and pressing one of the following keys *on the numeric keypad*:

- **8** Increase the velocity by one (this key is often marked with an up arrow)
- **5** Set the velocity to default (this is between the up and down keys)
- **2** Decrease the velocity by one (this key is often marked with a down arrow)
- **0** Set this note to the last used velocity (this key is usually bigger)

Shift-8 and **Shift-2** will increase or decrease the velocity by ten.

^8 and **^2** will set the velocity to the maximum or minimum respectively.

It can be useful, if you have a range of notes to change to the same velocity, to set the desired velocity for the first note, and for the rest just press the numpad **0** key to directly set that same velocity for each subsequent note.

Musical accents and controls

To make your music even more expressive than just altering the velocity, there are various controllers available. Which are actually supported depends upon your instrument. Refer to your device's *MIDI Implementation Chart* for specifics (see page 22). This software supports:

1	Modulation wheel	71	Timbre
7	Channel volume	72	Release time
10	Pan	73	Attack time
11	Expression	74	Brightness
64	Sustain	84	Portamento

To set a control, press **^M** and enter the desired value.
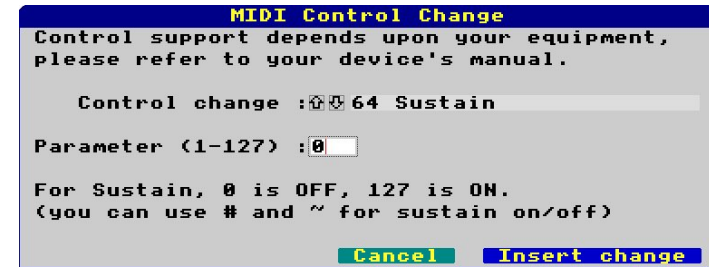
You cannot set a control at the beginning of a note (as the value that would be used as the control parameter is used to give the note velocity).

You can, however, insert controls in the middle of notes, or – the recommended option – in an unused space. *If you delete a note containing a control, the control will also be deleted.*

As the Sustain pedal is a widely supported, and commonly used, control, there are two keypresses to directly set Sustain. Press **#** to turn it on, and press **~** (**Shift-#**) to turn it off. If you are entering music from a piano, then the Sustain pedal will be understood and entered into the music when pressed and released.

When a control has been inserted, you'll see a little red marker with three letters inside to say what the control is: MdW, Vol, Pan, Exp, Tmb, Rel, Atk, Bri, and Prt.
Sustain is denoted using "Ped" for the start, and " * " for the end, as is common with music.

Channels

There are sixteen possible channels. Modern equipment supports all 16, older equipment may be more limited.
Pretty much everything that isn't ancient reserves channel 10 for percussion.

You can change which channel appears in the editor using **Page Up** and **Page Down**.
You can also press the number keys **1** to **0** to directly go to a channel (0 means channel 10).

Playing music

To play the current bar, press **P** (depending on settings a few bars prior may also play).
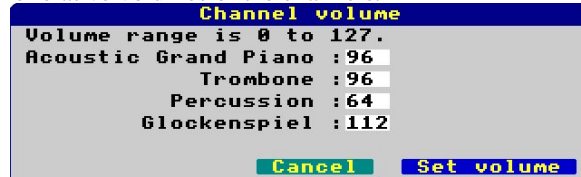To play the entire piece, press **^P**.
You can stop playing the music by pressing **Escape**.

Advanced settings

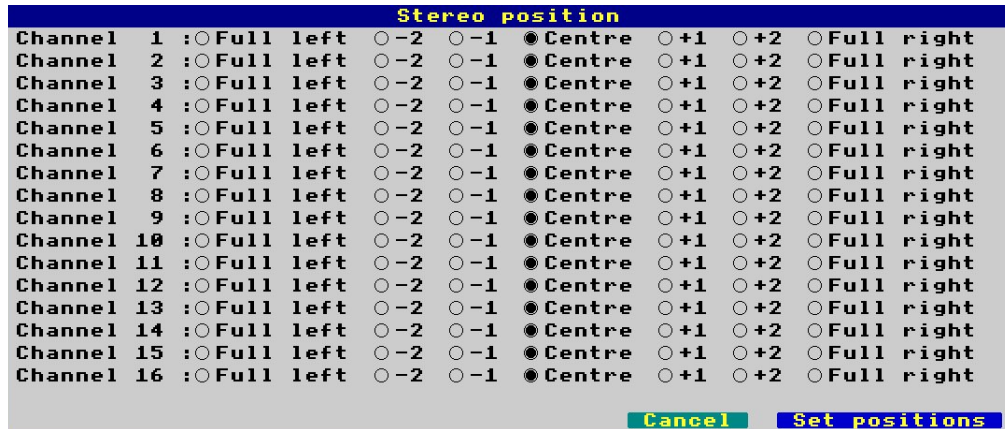You can also press **^G** to set up the stereo positioning of the channels.

```
                        Stereo position
Acoustic Grand Piano :○Full left  ●-2  ○-1  ○Centre  ○+1  ○+2  ○Full right
           Trombone :○Full left  ○-2  ●-1  ○Centre  ○+1  ○+2  ○Full right
         Percussion :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
       Glockenspiel :○Full left  ○-2  ○-1  ○Centre  ○+1  ●+2  ○Full right

                                    Cancel    Set positions
```

And **^H** to set up the relative volumes of the channels.

```
                  Channel volume
         Volume range is 0 to 127.
         Acoustic Grand Piano :96
                     Trombone :96
                   Percussion :64
                 Glockenspiel :112

              Cancel    Set volume
```

Note that some instruments, particularly the drum channel, may not respond to one or both of these settings.

By default, both of these options list only the channels that are used, giving them by instrument name.
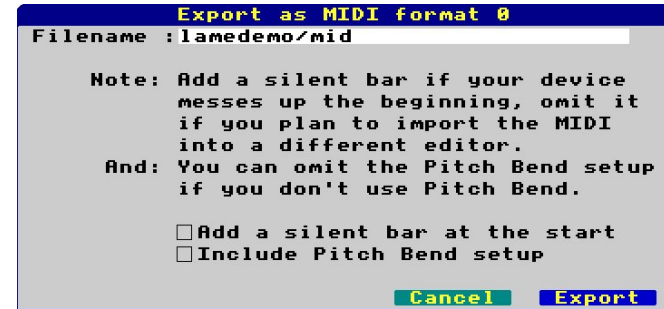
If you try to set up when no music has been entered, then you'll be asked to set up all of the channels, which can be a bit unwieldy.

```
                        Stereo position
Channel  1 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  2 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  3 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  4 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  5 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  6 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  7 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  8 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel  9 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 10 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 11 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 12 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 13 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 14 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 15 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right
Channel 16 :○Full left  ○-2  ○-1  ●Centre  ○+1  ○+2  ○Full right

                                    Cancel    Set positions
```

MIDI export

Now it's all good and well having *SimpleSeq* work with it's own files, but it is much better if you can use your creations elsewhere.

Therefore, *SimpleSeq* provides a MIDI export function. As well as playing to a MIDI device, it can also save standard format 0 (single track) MIDI files that you can then upload to a piano or edit on other software.

```
              Export as MIDI format 0
Filename :lamedemo/mid

     Note: Add a silent bar if your device
           messes up the beginning, omit it
           if you plan to import the MIDI
           into a different editor.
     And: You can omit the Pitch Bend setup
           if you don't use Pitch Bend.

           □Add a silent bar at the start
           □Include Pitch Bend setup

                      Cancel    Export
```

If you make use of *Pitch Bend*, then you should include this in the file. Otherwise, it can be omitted.

If you are playing directly to a hardware device (a piano), sometimes playback may be messed up at the beginning as the hardware may need a moment in order to get itself set up for the voice changes and such. If this is the case, then you should include an extra (silent) bar at the beginning to give the hardware time.

If you plan to import the music into another program, or upload the MIDI file directly to your instrument, you can omit the silent bar.
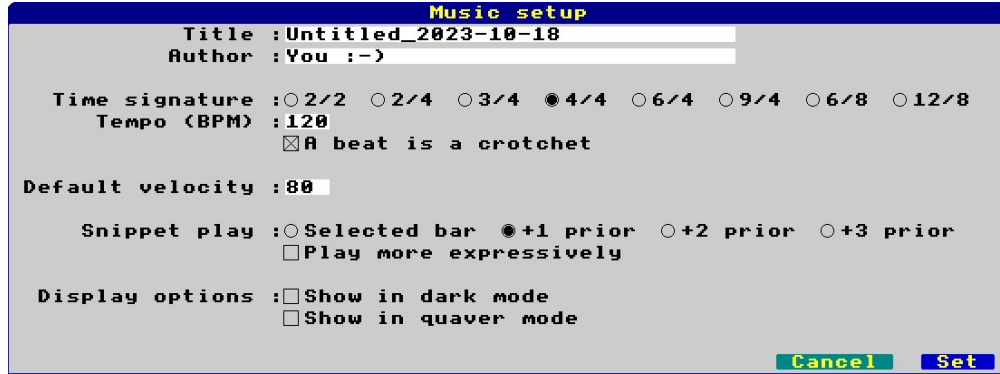
Please note that the MIDI file contains an exact reproduction of the music as entered into *SimpleSeq*, and that other software products may have differing abilities to actually handle this information.

For example, when loading MIDI into *Rhapsody* (on RISC OS), it does not reproduce the sustain pedal (and possibly other controllers, but I've not tested this), the channel volume, the stereo position, or *any* of the individual note velocities.

Setting the options

One of the first things you'll want to do is to set up the options. To do this, there are two separate dialogues, the general options and the instrument assignments.

For the general options, press **F8**.

```
                        Music setup
            Title :Untitled_2023-10-18
           Author :You :-)

  Time signature :○2/2  ○2/4  ○3/4  ●4/4  ○6/4  ○9/4  ○6/8  ○12/8
     Tempo (BPM) :120
                 ⊠A beat is a crotchet

 Default velocity :80

     Snippet play :○Selected bar  ●+1 prior  ○+2 prior  ○+3 prior
                   □Play more expressively

 Display options :□Show in dark mode
                  □Show in quaver mode

                                        Cancel    Set
```

Here, you can define various attributes of the piece of music that you are creating.

‣ *Title* - a free form entry string.
‣ *Author* - a free form entry string.

‣ *Time signature* - you can choose $\frac{2}{2}$ (often used for marches), $\frac{2}{4}$ (polka, bolero...), $\frac{3}{4}$ (waltzes, minuets...), $\frac{4}{4}$ (common time, frequently used), $\frac{6}{4}$ (compound duple), $\frac{9}{4}$ (compound triple), $\frac{6}{8}$ (double jig. some polkas...), or $\frac{12}{8}$ (shuffle, doo-wop, etc).

‣ *Tempo* - numeric entry, any value between 30 and 360 is acceptable.
At 30 BPM, beats will happen every two seconds, and the shortest note will be half a second, while at 360 BPM, there will be about six beats per second, with the shortest note being a 24th of a second.

‣ *A beat is a crotchet* affects how the timing is calculated. If this is checked, then it will always be assumed that a crotchet represents a beat regardless of what the time signature is. This is how music is usually timed these days.
If this is unchecked, then the timing will be determined by the time signature. The bottom number will specify what a beat is (2 = minim, 4 = crotchet, 8 = quaver), while the upper number says how many are in a bar. To me this is a more logical way of doing it, but people stopped doing it like this some time in the early 19th century...

‣ *Default velocity* specifies what velocity notes are initially given when you press **Space** to enter one in the editor.

Advanced editing: Filters

There are seven filters provided to assist you. All except for the first operate on the current channel.

- *Trim*
  This will scan all music in all channels to look for the last used column, and then the music length will be set to that.

- *Transpose up*
  This will shift every note up an octave.

- *Transpose down*
  This will shift every note down an octave.

- *Beatify*
  This will examine the music and make all notes beats (or multiples of beats), that is to say, a crotchet. It will then align the start and end positions with the nearest beat. This function is also known as "quantise". It may be useful if transcribing music into *SimpleSeq* to then "*beatify*" it to make it line up with the music's markers.

- *Quieten*
  This will reduce the velocity of all of the notes in the channel by ten.

- *Louden*
  This will increase the velocity of all of the notes in the channel by ten.

- *Velocity lock*
  This will set all of the notes in the channel to the default velocity.

To use a filter, *first save your file!*

Then press **^F** to open the filter dialogue. Choose a filter and click on **Apply filter**, and then then on **Yes, apply this** in the confirmation dialogue.

```
                    Confirm filter
      You have chosen the following filter:

        * Quieten
            Reduces the velocity of all the notes
            in the current channel by 10.

      Are you sure you wish to apply this filter?

                        Cancel    Yes, apply this
```
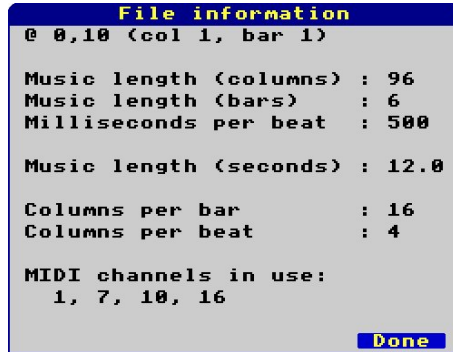
Using dialogues

There are numerous dialogues that may appear. These ask you for information or give you warnings about things.
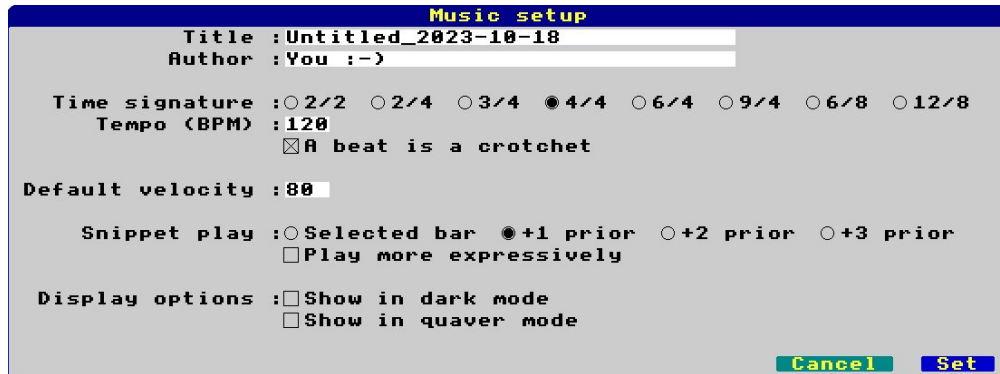
Here are some examples of dialogues.

An informational dialogue:

```
         File information
@ 0,10 (col 1, bar 1)

Music length (columns) : 96
Music length (bars)    : 6
Milliseconds per beat  : 500

Music length (seconds) : 12.0

Columns per bar        : 16
Columns per beat       : 4

MIDI channels in use:
   1, 7, 10, 16

                           Done
```

An error:

```
              Load error
This file could not be loaded because:

File "ThisIsNotAFile" not found.

                        Continue
```

Something that wants input from you:

```
                 Music setup
        Title :Untitled_2023-10-18
       Author :You :-)

 Time signature :○2/2  ○2/4  ○3/4  ●4/4  ○6/4  ○9/4  ○6/8  ○12/8
    Tempo (BPM) :120
                ⊠A beat is a crotchet

Default velocity :80

    Snippet play :○Selected bar  ●+1 prior  ○+2 prior  ○+3 prior
                 □Play more expressively

 Display options :□Show in dark mode
                 □Show in quaver mode

                                      Cancel    Set
```

There is also a "warning" that is like the red error message, but has a magenta border instead of red.

Octave shift

The software, and a lot of consumer level keyboards, offers 61 notes, usually in the range of C2 to C7, which lies in the middle of the full range of C0 to C9.
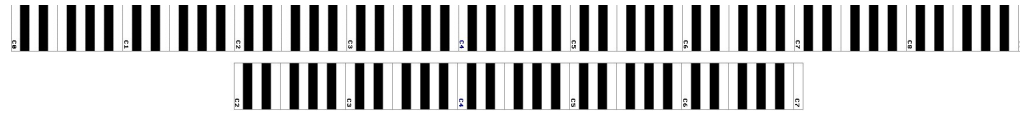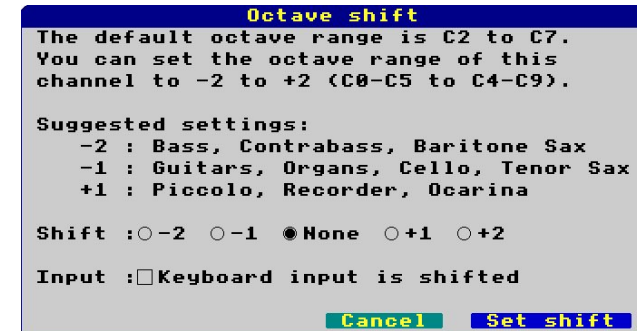

Some instruments require notes that are outside of this range. How my keyboard handles this is to simply shift the entire range covered by the piano according to the instrument in question. For example, when selecting a guitar the notes output are in the range C1 to C6, which means that to play a middle C, one must press the C5 key.
Some instruments (Contrabass, etc) are even lower, spanning the range C0 to C5, which means you'll find middle C on the C6 key.

SimpleSeq takes a similar approach. You can set an instrument, and then shift the entire range up or down one or two octaves as necessary. This applies to an entire channel.
To set up octave shift, press **^K**.

```
                Octave shift
The default octave range is C2 to C7.
You can set the octave range of this
channel to -2 to +2 (C0-C5 to C4-C9).

Suggested settings:
   -2 : Bass, Contrabass, Baritone Sax
   -1 : Guitars, Organs, Cello, Tenor Sax
   +1 : Piccolo, Recorder, Ocarina

Shift :○-2  ○-1  ●None  ○+1  ○+2

Input :□Keyboard input is shifted

                        Cancel    Set shift
```

The *Keyboard input is shifted* option is for use when you switch your piano to the instrument in question and it outputs notes in a shifted range. This allows you to match *SimpleSeq*'s octave shift to that used by your piano.
If you just leave it as a Grand Piano and turn the volume down to enter the notes, then no shifting is necessary - your piano will match the editor grid (so if you have shifted down two octaves, then pressing middle C will set a note at the C2 position, which is where middle C would normally be).
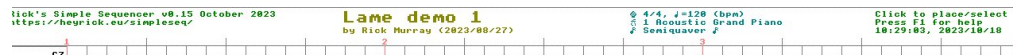
Generally, it is more useful to set your piano to the instrument in question and to enter the notes directly with input also being shifted.

Note that at this time *SimpleSeq* only supports the GM1 instrument set.

The screen layout

At a first look, the screen is split into three parts. There's some information at the top, some piano keys down the left, and the grid taking up most of the space.

Let's first look at the top of the screen.

Rick's Simple Sequencer v0.15 October 2023   **Lame demo 1**   ♩ 4/4, ♩=120 (bpm)   Click to place/select
https://heyrick.eu/simpleseq/   by Rick Murray (2023/08/27)   ♩ 1 Acoustic Grand Piano   Press F1 for help
♪ Semiquaver ♪   10:29:03, 2023/10/18

The stuff on the left in green is just some information on the software and the website address.
Centre left, in yellow/gold, is the music title and author.

Centre right, in cyan, is some information on the music and editor status.
The first symbol is a sort of lightbulb and it is showing that the display is not in dark mode.
You can press F10 to toggle between light and dark modes of display.
Following this, the 4/4 is the time signature. The crotchet symbol followed by a number is telling you the tempo. Here, it's 120 beats per minute.
On the next line, you are informed which channel you are looking at (1) and what the assigned instrument is (Acoustic Grand Piano).
The final line tells you if you are in Semiquaver (normal) mode, or Quaver mode. This allows you to see more on-screen at once.

On the right, in green again, is the clock and a reminder to press **F1** for help.

Looking along the top of the grid, you will see some of the grid lines are in red with numbers. These are the bars. The slightly extended vertical grid lines represent the beats. This allows you to line up your music. The placement of bar and beat markers depends upon your selected time signature.

Down the left of the screen, for all channels except channel ten, are the keys. High notes at the top, low notes at the bottom. Feel free to move the mouse pointer and click on any of them. If a MIDI keyboard is connected, you'll hear the same note, in the voice of the selected instrument.
The default range is C2 to C7, matching a basic 61 key keyboard, however with octave shift you can alter this plus or minus two octaves, so a channel could instead span C0 to C5 (for bass instruments) or, say, C3 to C8 (for things like the piccolo). Refer to page 19 for details of octave shifting.

Channel 10 is special. It is used as a percussion channel. Therefore it will be drawn in green instead of piano arrangement, and it will be annotated with brief reminders of what sounds each note represents.

Examples of both styles of keyboard are shown on the right.
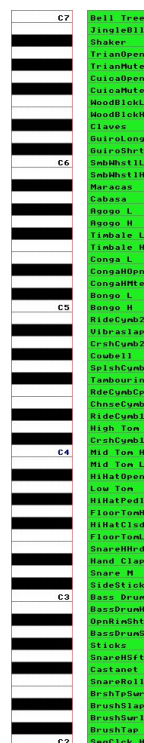
Other stuff: Pitch bend

The was intended to reach notes not directly supported, but this is no longer relevant now that octave shifting has been added.
It used a custom bend range that spanned an entire octave up or down from the base note, which was extremely variable as to how and if it would actually be supported. The typical pitch bend range is plus or minus two semitones (in other words, bending two keys worth on the keyboard – a C could be bent down to a B♭ or up to a D).
Some software synths do not support altering the bend range.
In general, my advice to you at this time is "don't use this". I may well, in the future, change this to be a regular (two semitone) bend.

Other stuff: The menu

Clicking a box in the grid with the **Menu** (middle) mouse button will set that location as the highlight, and then pop up a menu. Just in case remembering all those keypresses is hard...

Play snippet	P
Play piece	^P
AutoChord	^A
Pitch bend	^B
Control Change	^M
Filters	^F
Transcribe	^T
Replicate	^R
Copy bar	^C
Paste bar	^V
Insert bar	^I
Delete bar	^D
New	^N
Load	^L
File info	F2
Save	^S
Export as MIDI	^E
Instruments	F7
General setup	F8
Octave shift	^K
Stereo adjust	^G
Channel volume	^H
Toggle dark	F10
Toggle quaver	F11
Show overview	^O
Help	F1

Other stuff: Inserting and Deleting bars

You can press **^I** to insert a bar *before* the current bar, and you can apply this to the current channel or to all channels. Content that is in the current bar, and all following, will be moved up a bar.

The inverse case is by pressing **^D** to delete the current bar, again in the current channel or in all channels, shifting up following content to fill the gap.

Insert bar
Insert a bar before the current bar.

Which channels : ◉ All ○ Only channel 1

Cancel   Insert bar

Other stuff: Overview

Overview briefly changes the current editor view to one that tries to display the content of all channels on the screen at once. You'll mostly see this when playing music.
Press a key to return to return to the normal editor display.

Introduction

I never found I got on with notation. While it isn't that hard to understand, there is no obvious relationship between the notes as they appear, and their durations. For example, each of the bars below take the same amount of time. As you can see, the smaller the note durations, the more there are, so the more space it takes. It's sort of back to front, isn't it?

A sequencer is a different way of looking at music, in which there is a simple and direct temporal relationship between the notes played, and how long they play for.

The screen is drawn as a large grid. Up and down this grid are the musical notes. There are sixty one notes available, which corresponds to the size of an entry level keyboard such as one of the Yamaha PSR series, or a Roland Juno-DS, etc.

Across the grid represents time. In *SimpleSeq*, the smallest possible note duration is a *semiquaver*, or a quarter of a *crotchet*. There are therefore four per beat, and (in 4/4 time), four beats to a bar (also known as a measure).
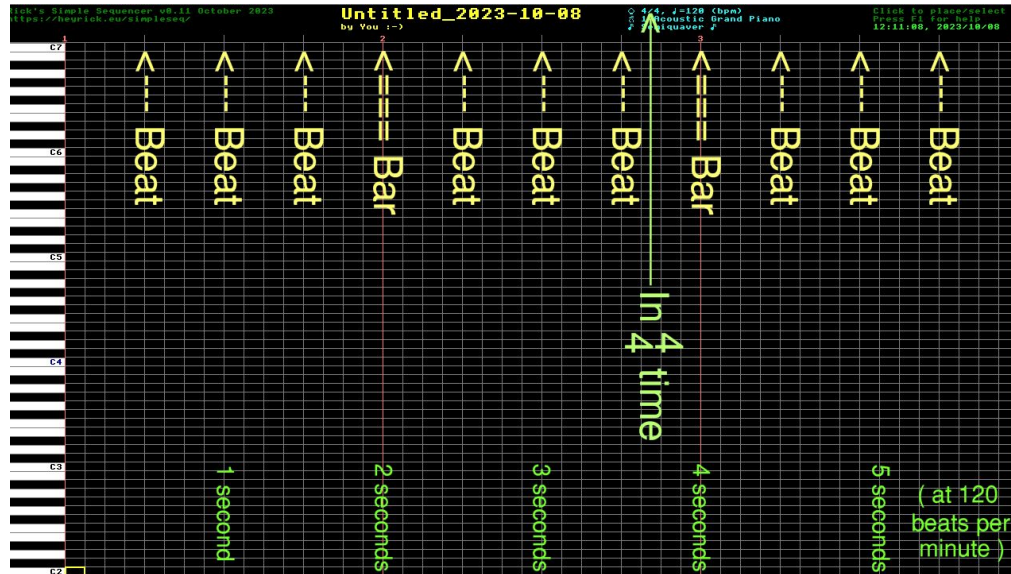
In 4/4 (common) time, at 120 beats per minute, this means each crotchet/beat happens every half second, and every semiquaver happens every 12.5 centiseconds, or an 8th of a second. Obviously, you can change the time signature and the tempo.

Beyond that, it's pretty much a point-and-click method of creating music.

Editor keypresses

Cursors	Move highlight	**Home**	Go to the beginning
Sh-Left	Previous bar	**End**	Go to the last bar used
Sh-Right	Next bar	**Select**	Set highlight (mouse click)
^Left	Change visible bar down	**Page Up**	Select next channel
^Right	Change visible bar up	**Page Down**	Select previous channel
Space	Set a note	**1 ... 0**	Select channel 1 ... 10
Delete	Delete note	**Enter**	Go to next column, extends
^Delete	Delete column contents	**Escape**	Stop playing / Quit
#	Set Sustain pedal	**~ (Sh-#)**	Release Sustain pedal
B	Make note a breve	**C**	Make note a crotchet
M	Make note a minim	**P**	Play current bar
Q	Make note a quaver	**S**	Make note a semibreve
F1	Help	**F2**	File information
F7	Instrument setup	**F8**	General setup
F10	Toggle dark mode	**F11**	Toggle Quaver mode
^A	AutoChord	**^B**	Pitch bend
^C	Copy current bar	**^D**	Delete current bar
^E	Export as MIDI file	**^F**	Filters
^G	Set channel stereo positions	**^H**	Set channel volumes
^I	Insert a bar	**^K**	Keyboard octave shift
^L	Load file	**^M**	MIDI Control Change
^N	New (clear current music)	**^O**	Show Overview
^P	Play entire piece	**^R**	Replicate bar(s)
^S	Save file	**^T**	Transcribe
^V	Paste copied bar		

In dialogues:

Tab	Highlight an adjustable object (or go to the next one)
Space	Toggle check box
Left / **Right**	Change radio selection
Up / **Down**	Change selected option (use **Shift** for +10 and **^** for top/bottom)
Escape	Abandon the action
Enter	Accept the action (or accept the string and go to the next)
Delete / **^U**	In strings, deletes characters / deletes the entire string