Pro 3 OS 1.1.0.0 Addendum

Pro 3 OS version 1.1.0.0 adds a number of new features not covered in the main User's Guide.

New Features in OS 1.1.0.0

- You can now import up to 32 custom wavetables of your own creation.

- The sequencer now features an enhanced step editing mode that allows you to audition each step as you make parameter changes.

- The sequencer now features an "Erase Track" command that allows you to erase all data from a specific parameter track, or all note and parameter data from all tracks in a sequence.

- The Pro 3 now provides duophonic operation. (Oscillator 3 functions as an LFO in this mode.)

- The Global menu now features a new "MIDI Arp/Seq Notes" parameter that allows you to send MIDI note data from the arpeggiator and/or sequencer Track 1 (notes) to the Pro 3's MIDI output.

- The sequencer now provides MIDI Note and CC Output to USB as track destinations.

- The Global menu now features tabs that group related functions together for faster navigation and less scrolling.

- The Stereo Delay effect now automatically ping-pongs between the right and left channels if modulation is applied to Panning.

- In Playlist mode, front panel controls now remain active and can be edited.

- MIDI Clock terminology has been changed from "master/slave" to "out/in."

Checking Your Operating System Version

If you've just purchased your Pro 3 new, OS 1.1.0.0 may already be installed. If not, and you want to use the new features just described, you'll need to update your OS.

To update your Pro 3 OS, you'll need a computer and a USB cable, or a MIDI cable and MIDI interface. To download the latest version of the Pro 3 OS along with instructions on how to perform a system update, visit the Sequential website at:

https://www.sequential.com/updating-Pro 3-os/

To check your OS version:

1. Press the GLOBAL button. The screen displays the OS version.

2. If your OS is out of date, download the latest version from the URL above and update your instrument using the instructions included with the download

IMPORTANT

Because OS 1.1.0.0 adds new commands to the GLOBAL menu, after installing the OS update, you must refresh the Pro 3's Global parameters using the RESET GLOBALS command in the GLOBAL menu. (In OS 1.1.0.0 and later this command is located in the COMMANDS tab of the GLOBAL menu.)

Importing and Using Custom Wavetables

As you know, Oscillator 3 of the Pro 3 synthesizer is a digital wavetable oscillator. It provides 32 wavetables permanently stored in wavetable slots 1-32. With Pro 3 OS version 1.1 and higher you can upload your own wavetables to slots 33-64 using Sequential's Wavetable Generator.

Wavetable Generator is a web-based utility hosted at: *www.sequentialwaves.com/*
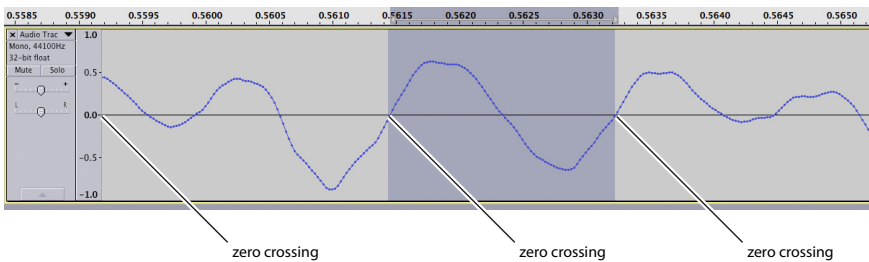
Requirements/Recommendations:

- OS version 1.1 or higher.

- Computer with internet access

- Chrome, Firefox, or Safari web browser

- Collection of single-cycle waveshapes. You can create these using a variety of applications, including:

    - Audacity - https://www.audacityteam.org/download/

    - WaveEdit - https://synthtech.com/waveedit

- Individual waves must be 16-bit, 48kHz, and ideally, 1024 samples in length. Shorter lengths are supported by Wavetable Generator, but the shorter their length, the higher they will shift the pitch of the Pro 3 wavetable oscillator. All waves in a set must be the same length.

- When naming waves for a set, add numbers 01, 02, 03, and so on to set their order in the wavetable — for example: *01-fuzzy sine*, *02-narrow-pulse*, etc.

- Refer to your Pro 3 User's Guide for information about the Pro 3's wavetable oscillator, its wavetables, and how to select and use them.

Creating Single-Cycle Waves

When creating your own single-cycle waves, follow these guidelines:

1. Make sure the wave starts and ends on a zero crossing. Otherwise the wave may cause pops, clicks, or glitches during playback. Refer to the illustration below.

2. Make sure the single-cycle wave is the correct length — ideally 1024 samples. Refer to your sample editor's documentation to learn how to create waves of a specific length.

The start and end of a single-cycle wave should occur on a zero crossing to avoid pops, clicks, and glitches.

For more information on creating single-cycle waveforms, refer to these articles:

https://forum.sequential.com/index.php?topic=39.0
https://groovesizer.com/make-your-own-single-cycle-waveforms/

Because of the volume differences that can occur when you create custom user-waves, you may wish to normalize your single-cycle waveforms as part of your creation process. This will ensure that they'll be as loud as possible when used in the Pro 3.

Using Wavetable Generator

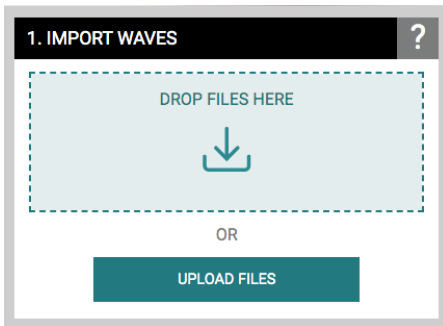Before you get started using Wavetable Generator do the following:

Before you begin:

1. Turn on your computer and open your web browser.

2. Go to the Wavetable Generator utility here: *www.sequentialwaves.com/*

After you convert the 16 single-cycle waves into a wavetable you will save the SysEx-based wavetable file that Wavetable Generator creates, then transfer it to your Pro 3 using a MIDI Utility such as SysEx Librarian (Mac) or MIDI-OX (Windows).
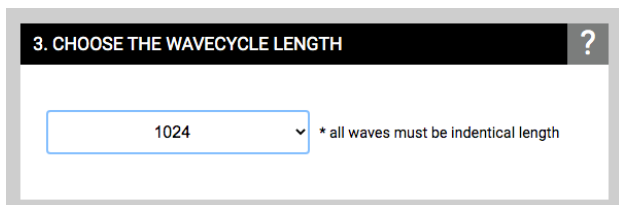
To Use Wavetable Generator:

1. With Wavetable Generator open on your browser, drag and drop the 16 single-cycle waves into Section 1 of the utility. Alternatively, click the UPLOAD FILES button and load the files using the file dialog that appears.

2. In Section 2 of the utility, enter a name for the wavetable. Names can be a maximum of 8 characters in length.
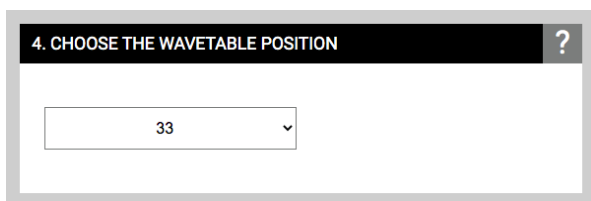
3. In Section 3 of the utility, specify the wavecycle length. Make sure this matches the length of the waves that you created. All waves must be an identical length. Waves of 1024 samples are best.
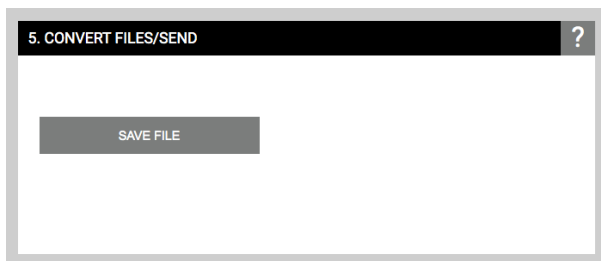

4. In Section 4 of the utility, specify the wavetable position. You will then be able to select your custom wavetable by number and name using the SHAPE knob in Oscillator 3.

5. When the above fields and menus have been filled in, the SAVE FILE button is enabled (green). Click this button to save the wavetable as a SysEx file on your computer. You can then transfer the wavetable file to the Pro 3 using a MIDI utility such as SysEx Librarian (Mac) or MIDI-OX (Windows).

Transferring Wavetables to the Pro 3

After you have converted a set of waves into a Pro 3-compatible wavetable, you can transfer it to the Pro 3.

To transfer a custom wavetable to the Pro 3:

1. Turn on the Pro 3.

2. Connect the Pro 3 to your computer with a USB cable.

3. On the Pro 3, press the GLOBAL button, then press Soft Button 2 and set MIDI SYSEX CABLE to USB. Press the GLOBAL button again to exit.

4. Use a MIDI utility such as SysEx Librarian (Mac) or MIDI-OX (Windows) to open the wavetable you created.

5. Send the wavetable to the Pro 3 (refer to your MIDI utility's documentation).

Using a Custom Wavetable

To use your custom wavetable:

1. In the Pro 3's MIXER section, turn up OSC 3 LEVEL.

2. On the Pro 3, turn Oscillator 3's SHAPE knob to navigate to the number of your custom wavetable.

3. Play a few notes on the keyboard to hear to your wavetable.

In this way, you can load up to 32 custom wavetables using the Wavetable Generator utility. Custom waves reside in slots 33-64. Slots 1-32 are permanent factory wavetables.

Be sure to save your custom wavetable SysEx files to your computer in case you want to share them with other Pro 3 users or archive them.

Interactive Sequencer Step Editing Mode

The Sequencer now features an enhanced step editing mode that allows you to audition each individual step as you make parameter changes. This feature can be used to edit existing parameter data on a track or to add parameter data to a track that currently has none.

To interactively add or edit sequencer parameter data:

1. Press the RECORD button twice quickly. It begins flashing.

2. Press and hold the step button for which you want to add or edit parameter data. This triggers the step so that you can hear it.

3. While continuing to hold down the step button, turn the desired parameter knob (filter cutoff, etc.). You can hear the parameter change. If you turn additional parameter knobs while holding down the step button, data will be recorded for those parameters on additional available sequencer tracks.

4. When you're satisfied with the parameter setting, release the step button.

5. Repeat as necessary for additional steps and parameters.

6. Pres the RECORD button again to exit this editing mode.

"Erase Track" Command

The Sequencer now features an "Erase Track" command. This allows you to erase all data from a specific parameter track or alternatively, all note and parameter data from all tracks in a sequence.

To erase the data on a specific parameter track:

1. Press and hold the TRACK SELECT button.

2. Press Soft Button 3 (ERASE TRACK).

3. While continuing to hold down both buttons, press the step button corresponding to the parameter track that you want to erase.

To erase all data in a sequence:

1. Press and hold the TRACK SELECT button.

2. Press Soft Button 3 (ERASE TRACK).

3. While continuing to hold down both buttons, press the A,B,C, or D button to erase all data on all tracks for that sequence.

Duophonic Mode

The Pro 3 now features duophonic playback mode. In this mode, analog Oscillator 1 and Oscillator 2 each produce individual notes/tones as they would in paraphonic mode. But in this case, Oscillator 3 functions as an LFO (with its wide range of waveshapes) and unlike in paraphonic mode, is not triggered as a tone generator when multiple keys are pressed.

To enable duophonic mode:

1. Turn up Oscillator 1 and Oscillator 2 in the Mixer.

2. Press the PARAPHONIC button.

3. On Oscillator 3, press the LOW FREQ button.

4. Play two-note chords.

MIDI Note Output from the Arpeggiator and Sequencer

The Pro 3's arpeggiator and sequencer both now output MIDI note numbers. What was originally the MIDI ARP NOTES setting in the GLOBAL menu in OS v1.0 is now called MIDI ARP/SEQ NOTES and has been enhanced to include MIDI Note output from Track 1 of the sequencer.

With this Global parameter enabled, any notes that you hold on the Pro 3 keyboard will be arpeggiated according to the current settings of the arpeggiator and output over MIDI as MIDI notes. Similarly, any notes output by Track 1 (notes) of the sequencer will be output over MIDI as MIDI notes. You can use this feature to drive other MIDI-equipped devices such as synthesizers and drum machines.

To enable MIDI Note output from the arpeggiator and sequencer:

1. Press the GLOBAL button, then press Soft Button 2 to select the MIDI tab.

2. Use Soft Knob 1 to select MIDI ARP/SEQ NOTES.

3. Turn Soft Knob 3 to select ON.

To control an external MIDI device:

1. Connect the MIDI or USB output of the Pro 3 to the MIDI or USB input of the external device, depending on which type of connection the external device requires.

2. On the Pro 3, press the GLOBAL button, then press Soft Button 2 to select the MIDI tab

3. Use Soft Knob 1 to select MIDI OUT SELECT.

4. Turn Soft Knob 3 to select MIDI, or USB, or MIDI+USB, depending on how your Pro 3 and external device are connected.

5. Press the GLOBAL button again to exit the Global menu.

6. On the external device, set the the MIDI Channel and MIDI Receive port to match the Pro 3.

Tabbed Global Menu

The Global menu now features tabs that group related functions together for faster navigation and less scrolling.

Edit Global			Main: 1.1.0.0
1. Master Coarse Tune		0	
2. Master Fine Tune		0	
3. Local Control		On	
4. Mono/Stereo		Stereo	
General	MIDI	CV	Commands

Related functions are grouped together into tabs