

Waldorf has now released the long-awaited update to the genius Quantum Synthesizer. OS 2.0 impresses with a new KERNEL synthesis, advanced sample editing, an improved workflow, a screensaver and much more ...



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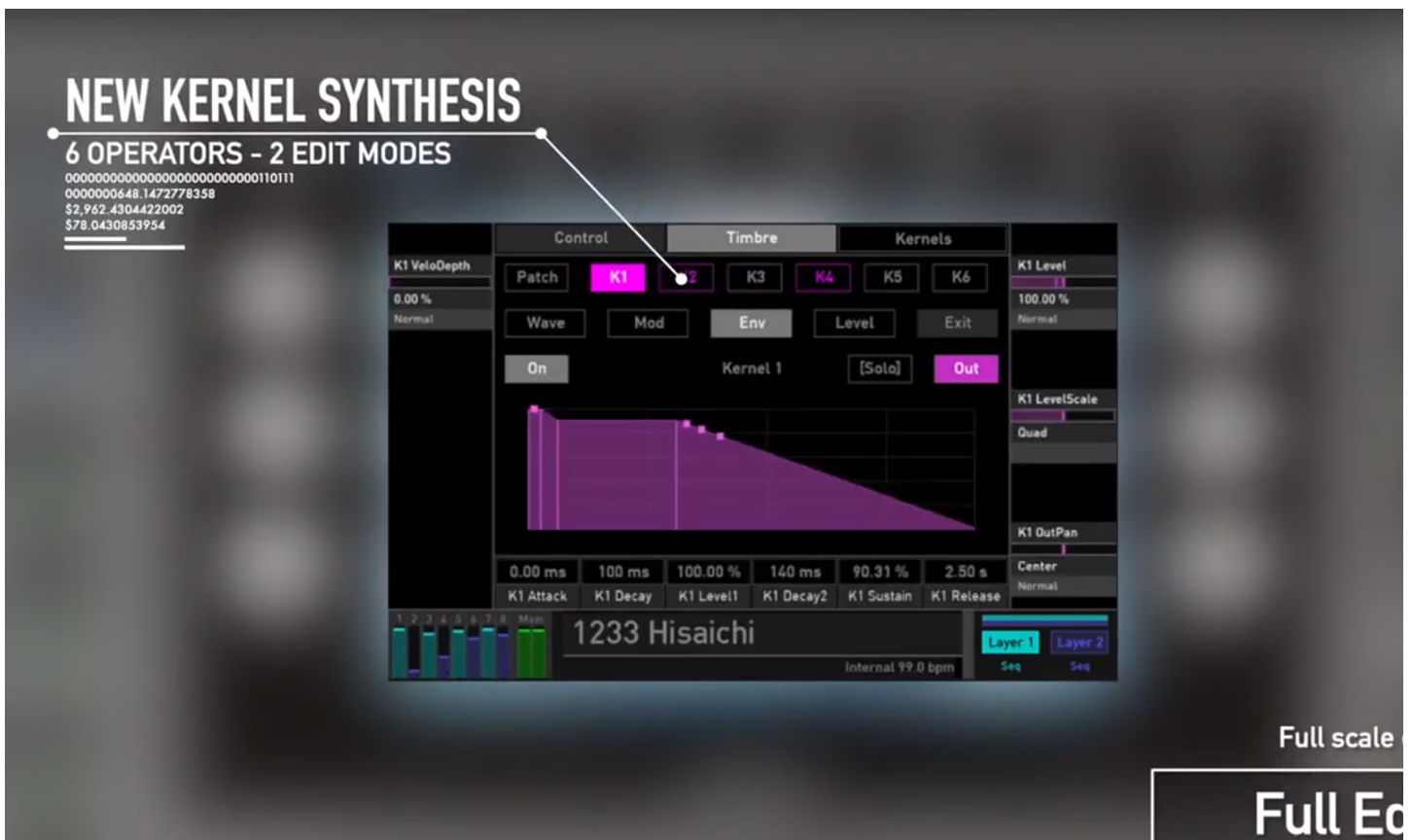
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The OS 2.0 details:

- **New Kernel Osc Type**

- Each of the 3 oscillators can be turned into 6 Kernel Operators with a five-stage envelope each
- Two edit modes
  - Innovative template mode for intuitive sound design without need of diving into FM-internals
  - Full scale editing of kernels with all their parameters including an internal modulation matrix
- Template Mode
  - 14 factory templates for design from classic FM sounds to forward looking inharmonic textures and abstract sound
  - Each template has 5 individual meaningful sound parameters
  - 5 macro parameters available in main modulation matrix
  - Creation and exchange of user templates possible
- Full Edit Mode
  - Each kernel could be an individual wavetable, classic waveform or noise
  - Individual audio rate modulations between kernels
    - Classic Phase FM
    - True FM
    - Wavetable Position (in audio rate which allows for novel structures)
    - Amplitude Modulation
    - Ring Modulation
  - Kernel self-feedback
  - Free patching of kernels into algorithms with up to three modulation inputs for each kernel

- Classic FM algorithm presets
- Each kernel with individual dual decay stage envelope
- Three segment individual level scaling over keyrange for each kernel
- Five macro parameters for each kernel osc
  - Each macro parameters controlled by 6 slot modulation matrix inside each kernel osc
    - Modulation destinations for each kernel:
      - Level
      - Pan
      - Pitch
      - Freq Offset
      - Feedback
      - Wavetable Position
      - Wavetable (this allows for cross-wavetable modulations)
      - Attack
      - Decay
- Six pitch modes for each kernel:
  - Ratio
  - Sub-ratio
  - Ratio + offset
  - Semitones
  - Fixed
  - LFO
- Individual phase control for each kernel including free running
- Import of legacy FM format



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- **Wavetable**
  - New UI Display modes: 3D, Wave, Spectrum
  - Wave & Spectrum will reflect phase, position, stepped, limit, spectrum and brilliance params
- **Particle**
  - Maximum grain length increased to 1 sec
- **Sampling** (Particle non-granular mode & Resonator)

- New “Direction” parameter
  - “Forward” and “Backward”
  - Respects Loop Modes
- Loops
  - New loop mode “PingPong”
  - Cross-fade for loops
- Sample start position as modulation destination in mod matrix
- New “Edit” screen in Particle & Resonator
  - All settings individual for each sample entry in sample map (Tap on “Edit”)
  - Various zooming options
  - Various selection options
  - Fine-grained control for sample start & end as well as loop start & end
- **Analog Filter & Digital Former**
  - Default Filter Stereo Mode changed to “neutral”
  - New output level and pan parameters for analog filter and digital former
- **Routing Display**
  - Shows now FX type names & state
- **Envelope**
  - Auto-scaling envelope curve in display
- **Modulation Matrix**
  - Push Destination encoder for flip through groups of destinations
- **Sequencer**
  - New Parameter-only Sequencer mode
    - With up to 8 param tracks
  - Arp & Seq screens are now merged into a common screen
- **Sync**
  - Now showing musical values for sync ratios



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- **Editing**
  - Pushing display encoder will toggle between normal, fine and super modes
  - Pushing display encoder while a selection list is opened in the Mod Matrix will jump forward to 3

the next category

- If a parameter from the bottom row is edited and in focus (with popup control and marked with colored frame), this parameter can be then also changed with main encoder while in focus.

- **File browser**

- Reacts on main encoder for scrolling and when pressing performing open/save
- Better adaption of column widths

- **Menus**

- MainEncoder scrolls through menus, push will select

- **Support of USB Storage Devices**

- Drive must be formatted in FAT or exFAT
- After the installation of OS 2.0 and higher, future firmware updates can be installed using a USB storage device

- **Settings**

- Default Screen for Perf Button in Global->Settings->Edit

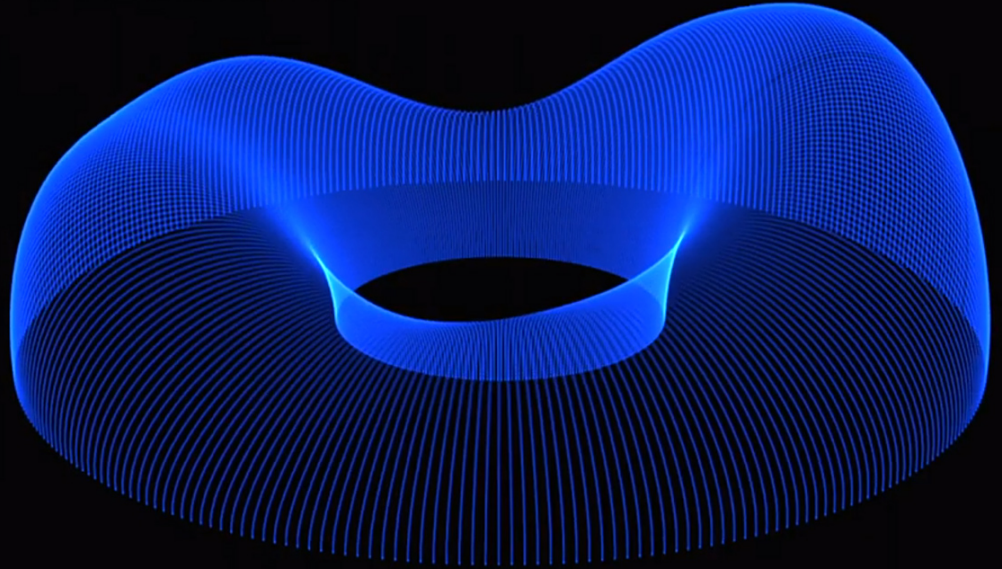
- **AudioFile Editor Extended in Global->Audio**

- Zooming
- Scrolling
- Selection
- Edits
  - Various Normalize
  - Trim
  - Cut
  - Fade In/Out
  - Reverse
  - Silence
- Undo/Redo (1 level)
- Recording
  - Record Trigger
    - Manual
    - Note
    - Signal Threshold
  - Input VU
  - Input Monitor Level
  - Physical Recording Level

# QUANTUM

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## SYNTHESIZER



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- **Patch Management**

- New feature filter for Arp, Seq, Mono, Layered sounds etc.
- New bulk delete action in Load screen action menu
- Export
  - You can now select to export patches also with samples
  - All related samples will be put into a subdir 'samples' within the export directory
- Import
  - If in the import directory there's a samples subdir with the samples matching the patches, they will be imported too.
  - If a sample is already existing on the internal flash memory, it won't be copied.

- **Screen Saver**

- Will run after minutes set in Global->Settings->General
- Will disappear when playing note, turning pot, encoder or pressing button
- Quantum is always ready to play even when in screen saver mode.
- It's NOT a sleep mode, just to protect the screen from burn-in if left running for hours.

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Further Info:

- [Waldorf Music](#)
- [Waldorf QUANTUM - a hybrid path to the future](#)