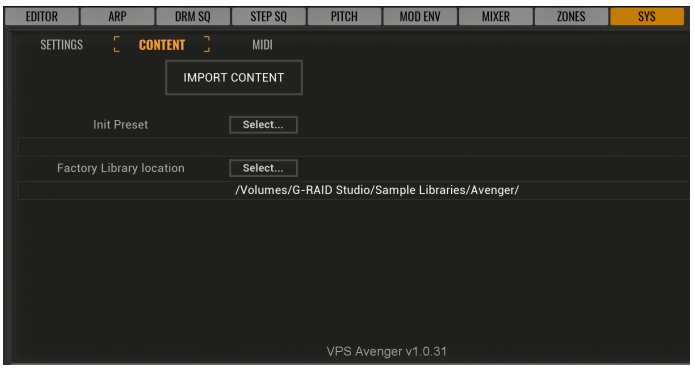
Sound Library *Takeover* for Avenger 2.0

Installation

After uncompressing the zip-file you downloaded you will find a Readme-PDF and the installation file “Takeover.avengercontent“, please proceed as follows:

Navigate to the SYS-tab in Avenger on the far right of the main edit window, click on “CONTENT“, then click on “IMPORT CONTENT“ and locate the installation file or just drag&drop the file into the Avenger interface.



After the installation you will find the presets within Avenger's preset browser.

License agreement and terms of usage

This license agreement is between you (the licensee) and me (Simon Stockhausen).
1.) The licensee must not distribute or share the patches, samples and wavetables from *Takeover 2.0*, must not resample or re-synthesize, copy or otherwise replicate the patches, wavetables, samples and shapes from this sound library in any commercial, free or otherwise product. That includes sample and audio libraries and patches for samplers and sample based synthesizers. You can of course create such derivates for your own musical work as long as these derivates are only distributed in the context of musical work or sound design.

2.) The license to the sound library *Takeover 2.0* may not be given away or sold (NFR).

Description and Content:

Takeover 2.0 for Avenger provides a broad palette of timbres suitable for a wide variety of musical styles:

Monumental, epic, dramatic soundscapes with a cinematic flavor.
Heartwarming, fragile, lush, elevating pads.
Ethereal, fascinating and otherworldly textures.
Dark and massive drones.
Expressive lead synths and juicy bass sounds.
Beautiful string instruments (guitars, plucked piano, cello derivatives).
Bells and pluck sounds.
Synthetic vocal textures.
Epic brass swells (horns, trombones, sousaphone).
Drum/percussion sounds for the drum sampler, dry and processed.
Playful, edgy and minimal sequences.
Evolving, rhythmical, often tempo-synced animations of timbre, amplitude and filters.

Specs:

- 132 patches (including 8 variations).
- 92 wavetables, also derived from the re-synthesis function in Avenger.
- 83 sample maps (multi-samples) and one-shots (44.1 kHz - 24 Bit), 2+ GB (before lossless compression in Avenger).
- 35 granular sources.
- 13 single cycle waveforms (shapes).
- 2 drumkits
- Library size unzipped: 953.4 MB.
- All patches have the modulation wheel and the three Macros assigned, most also use Macro switches, many also use aftertouch.
- Comes in the native avenger format, easy import/installation.

Patch categories (12 sub-folders):

- Arp - Sequencer (17 including 6 variations)
- Bass (8 including 1 variation)
- Bells - Plucks (13)
- Brass (5)
- Drones (12)
- Drums - Percussion (8)
- Leads (5)
- Pads (15)
- Soundscapes (24)
- String (7 including 1 variation)
- Synth (11)
- Vocal Synth (7)

CPU

Avenger can be quite CPU-hungry depending on the buffer size in your DAW and the amount of layers and voices used in a patch. On Mac it saves CPU if you have the interface closed. To save CPU, decrease the release time and reduce the number total polyphonic voices, also when mixing and not tracking, raise the buffer of your DAW. Logic users should select an empty track when not playing Avenger as the Live-mode in Logic is quite demanding on the CPU.

Patchlist

In the remarks about the patch setup and available controls I didn't mention all details, but a lot of them. "MW" means modulation wheel, "AT" means aftertouch, "WT" means wavetable, "VEL" means velocity, PB means pitch bend. F1-x means filters 1-x, the Macros are abbreviated with "M1 - M3", Macro buttons are labelled MB1/2. If your Midi keyboard does not support Aftertouch, you can automate "C-Press" in your DAW.

Please note: In order to play the presets from this sound library you need to have Avenger version 1.4.8 or higher installed on your system.

Arp - Seq	Comments / Controller Assignments
Autobahn Munger Half Time	Same patch as below with slower modulation speeds.
Autobahn Munger	Fast, hypnotic, triplet based sequencer using a WT derived from a Thai Gong accent in OSC1 and a processed electric guitar accent in OSC2 (routed to FX2) which is triggered every 4 bars via ARP2. MW adds FM/SYNC/filter modulation, M1 adds detuned octaves in OSC1, M2 sets the glissando range of the impact in OSC2, M3 controls volume of OSC2. MB1/2 engage bitcrusher FX/reverb (convolution) for OSC1 (in FX1).
Brain Piercing	Complex sequencer with SYNC modulation in OSC1 meets a more basic, wave-shaped octave bass in OSC2. MW introduces tempo-synced filter/formant modulation, AT increases detune mix/ detune amount. M1 adds FM, M2 adds auto-panning in OSC1, M3 introduces tempo-synced amplitude modulation in OSC1, MB1 engages gated reverb, MB2 controls delay mix.

Arp - Seq	Comments / Controller Assignments
CombQuencer	Sequencer using two arpeggiators in poly mode. OSC1/2 routed to Arp 1 (volume of OSC2 modulated by MOD ENV1/LFO3) and F1 (tuned comb-filter), OSC3 routed to Arp 2, volume of OSC2 is assigned to M2 which also decreases the resonance of the tuned comb-filter. M1 adds unison detune/stereo spread in OSC1, M3 controls phaser mix. MB1/2 switch on/off delay/reverb FX, MW increases sustain level in the amplitude envelopes.
Dance Of Three	Same patch as below with slower modulation speeds.
Dance Of Three	Triplet-based sequencer using two oscillators, OSC1 playing in the higher frequency range, OSC2 providing the bass in double time (use M2 for volume control). MW adds FM and wave-shaper distortion, M1 engages tempo-synced filter modulation, M3 controls master LP cutoff, MB1/2 control delay/gated reverb mix. Works for monophonic sequencer lines and chord sequences alike.
Dotted OudQuencer Half Time	Same patch as below with slower modulation speeds.
Dotted OudQuencer featured in this video.	Two oscillators using the same wavetable, panned hard left right, the right side has fine-tune modulation applied (via MOD ENV 2). MW adds double time, random HP filter modulation (LFO4 -> FILTER 2), M2 introduces X-Side modulation, M2 adds tempo-synced FM/SYNC modulation, M3 engages slow LP filter modulation. MB1 engages a pitch sequence (via STEP SQ1), MB2 controls delay/reverb mix.
Formant Club	Two WT oscillators, OSC1 using a WT extracted from piano harmonics, WT using a WT extracted from a speech sample, each OSC is routed to it's dedicated vocal/ formant filter. MW adds tempo-synced SYNC modulation, adds FM/AM and increases unison mix/ detune in OSC2. M1 introduces tempo-synced volume gating in OSC1, M2 adds wave-shaper distortion in OSC1, M3 introduces tempo-synced pitch mayhem in OSC2 (via PITCH 2). MB1 adds the sub-oscillator in OSc1, MB2 enables delay/gated reverb.
Majority Peak Half Time	Same patch as below with slower modulation speeds.
Majority Peak	Two major arps, one fast one half time in two oscillators using the same WT, the arp in OSC2 doesn't re-trigger if you play legato notes. Each OSC has it's dedicated volume control (M1/2), MW adds tempo-synced LP filter modulation, M3 adds wave-shaper distortion with modulated frequency shifting, tempo-synced amplitude modulation of the noise oscillator in OSC1 and FM in OSC2. MB1 engages phaser FX, MB2 controls delay/reverb mix.
Minor Runner Half Time	Same patch as below with slower modulation speeds.
Minor Runner	Polyrhythmic dual arp combining arpeggiators with modulated volume gates - half time in OSC1 using a more dull timbre, double time in OSC with a more plucky sound, M1/2 are dedicated volume controls for each oscillator. MW adds fast random formant modulation/wave-shaping in OSC1and FM in OSC2. M3 controls HP cutoff in the master filter, MB1 engages chorus FX, MB2 controls delay/reverb mix.
One Finger Dance	AT transposes the 1-finger-pad in OSC1 down an octave, MW adds tempo-synced timbral modulations in numerous parameters via several modulators, M1 increases unison and adds intervals in OSC2, M2 smoothens the gated sequences in STP SQ 1/2, adds long delays (Master FX) and modulates reverb parameters, M3 adds notch-filter modulation. MB1 adds delay in OSC2 (via FX2), MB2 adds reverb.
Sad Arp	Main arp melody in OSC1 and accompaniment in OSC2 (pitch sequence via STP SQ2, transpose OSC12 up an octave with MB2). MW adds/increases FM, M1 introduces tempo-synced filter modulation (via MOD ENV1), M2 controls phaser FX mix, M3 controls delay mix, MB1 engages reverb.

Arp - Seq	Comments / Controller Assignments
Triplet Mantra Half Time	Same patch as below with slower modulation speeds.
Triplet Mantra	Triplet-based dual sequencer with SYNC modulation in OSC1, amplitude modulation driven by MOD ENV1, OSC2 tuned down an octave with sub-bass and filter action (LFO2 via MOD ENV 3). MW adds noisy FM, M1 adds notch filter modulation in OSC1, M2 controls volume of OSC2, M3 controls master LP frequency cutoff. MB1/2 control delay/reverb mix.

Bass	Comments / Controller Assignments
Bass Insect used in this video	Bass sequencer using a WT with 5 waveforms, a pitch sequence can be activated with MB1 (via STP SQ1). MW adds FM modulation via the Wavetable envelope and formant modulation via LFO3. M1 introduces tempo-synced filter modulation, M2 controls unison mix, M3 adds wave-shaping (with modulated frequency gain) and LP filter modulation in F2. MB2 controls delay mix.
Bass Man No Arp used in this audio demo	Same patch as below with the pitch sequence (ARP1) in OSC2 disabled.
Bass Man	Bass sequencer with two oscillators, OSC2 has a pitch sequence applied via ARP1. MW decreases LP filter cutoff and increases filter resonance/drive, M1 controls delay mix, M2 introduces a combination of bitcrusher and wave-shaper FX, the latter having slow filter modulation applied (HP/LP), M3 adds SYNC modulation in both oscillators (via MOD ENV 1/2), OSC2 also has FM modulation via LFO3. MB1 engages the gated reverb in MASTER FX.
ClariBass	Bass sound using a WT extracted from a bass clarinet tone in two oscillators. The WT envelope controls numerous parameters via VEL, e.g. WT position, amount of filter envelope modulation, X-SIDE/Formant modulation, after the envelope phase, LFO1 kicks in with a delay and modulates WT position/filter cutoff. M1 transforms the sound into a punchy bass synth in OSC1 (adding wave-shaper distortion, sub-oscillator via envelope), M2 controls compressor threshold, M3 controls volume of OSC2, MB2 transposes OSC2 up an octave, MB1 adds short convolution reverb and a very short stereo delay.
Fattso featured in this audio demo	Snappy bass patch with two oscillators, control volume of OSC2 with M3. WT position in OSC1 is randomized, VEL controls amount of LP filter envelope modulation via MOD ENV1, MW adds FM, AT adds vibrato. M1 modulates X-Side/Formant. M2 adds wave-shaper distortion, MB1 activates delay send, MB2 transposes OSC2 up an octave.
Gong Bass	Sample of a gong accent in OSC1 layered with a re-synthesized gong accent in OSC2. VEL modulates several things in OSC2 like spike amount, WT position, and detune mix/amount via MOD ENV1, MW introduces a pitch glissando during the attack phase. M1 adds wave-shaper distortion in OSC2, M2 engages LP filter envelope (MOD ENV1), M3 randomizes pitch in OSC1 and timbre in OSC2 (X-Side/Formant). MB1 decreases decay/release time, MB2 controls reverb mix (convolution).
Roll Over featured in this video.	Bass sequencer with sweeping partials and unison modulation (NSWEEP/unison mix and pan modulated by tempo-synced LFO1). MOD ENV1 provides the tempo-synced gate/filter sequence (Filter 1), MW darkens the timbre (-> X-Side/Formant), M1 adds wave-shaper distortion, M2 introduces the Trash FM filter in Filter 2, with M2 dialed hard right, crazy scratch effects occur. Inverted M3 controls LP filter cutoff in the master filter. MB1 controls delay mix (2 delay modules in FX1), MB2 controls convolution reverb mix.

Bass	Comments / Controller Assignments
Square Two	Aggressive allrounder square bass. Filter Env modules various things, decay time is modulated via VEL, MW introduces SYNC envelope modulation, AT adds vibrato M1 adds FM modulation (via free running LFO2), M2 adds square sub (tuned to the same octave), M3 adds wave shaper distortion with two individually modulated frequency band (free running LFOs 2/3). MB1 adds gated reverb, MB2 adds an octave above the root note (voicing section).

Bells - Plucks	Comments / Controller Assignments
Bell And Sparkle	Ship bell accent in OSC1 meets ethereal processed bell texture in OSC2. MOD ENV1/LFO1/LFO2 modulated unison mix/detune amount/panning (AMP2) in OSC2 (routed to FX2 with phaser FX, phaser mix modulated by LFO3). MW adds pitch modulation/vibrato, M1 controls volume of bell intervals (+7/12 semitones -> Voicing section), M2 adds chorus FX to the bells (FX1), M3 introduces a tempo-synced gate sequence (STP SQ1) in OSC2. MB1 controls delay FX for the bells (in FX1), MB2 controls reverb mix in MASTER FX.
Brass Bell Trem Layered	Brass bell tremolo in 4 oscillators with different starting points and dedicated auto-panning (4 amp envelopes), re-synthesized bell tremolo with tempo-synced LFO modulation in OSC5 (use M2 for volume control). MW adds FM, M1 sets range of randomized sample start in OSC 1-4, M3 controls LP cutoff in the Master FX section. MB1 engages the flanger in FX1, MB2 controls reverb mix in the Master FX section.
Flago Plucker featured in this audio demo	Multi-sampled flageolet nylon guitar (10 pitches sampled between A2 – E4 / A1 – E3 in Avenger) layered with a pluck synth in OSC2 (volume control via M2, WT index modulation via VEL), MW adds vibrato for occasional vibrato. VEL modulates numerous things in both oscillators (e.g. spike amount/X-Side/Formant/unison mix/ detune amount). M1 adds FM (FM Rate is randomized with each note), M3 controls chorus FX mix (in FX1), MB1 activates the compressor, MB2 controls delay mix (Master FX).
Funk Picker	Re-synthesized/wave-tabled nylon guitar pluck, VEL modulates numerous parameters (filter/envelope decay/timbre), also envelope modulation amount of the WT index (FILTER ENV1). MW adds vibrato, AT modulates pitch (+2 semitones) when MB1 is engaged. When M1 is engaged, VEL modulates X-Side/Formant via filter envelope, M3 adds wave-shaper distortion with slowly modulated frequency gain/range (via free running LFO 1/2), MB2 controls reverb mix (convolution).
Granular Train Bell Featured in this audio demo	Granulated ship bell accents with cross-FM routed through tuned comb-filter, MW adds cross FM, Macro 1 controls amount of unison detune, M2 controls grain position, M3 diffuses the grains. MB1 switches on/off chorus FX, MB2 switches on/off delay/reverb FX.
Meditational Bells used in this audio demo	A series of bell accents performed on two Nepalese bells, reversed in OSC2 in unison mode, OSC3 (control volume with M2) adds a simple sine synth processed by a wave-shaper. MW adds unison mix and LFO-controlled modulation of vibrato amount (fast square) in OSC1 and FM/AM in OSC2/3, M1 shifts sample start in OSC1/2, M3 introduces fast, tempo-synced, square-shaped pitch modulation in all oscillators (+1 octave with the Macro fully engaged). MB1/2 control delay FX for the bells (synth is routed to FX2 with a dedicated combination of effects) and reverb mix in the master FX section.
Meditational Grains	A series of granular Nepalese bell accents, OSC3 (control volume with M2) adds a simple sine synth processed by a wave-shaper. MW adds cross FM/FM and a tuned comb-filter to OSC1, M1 increases grain speed/decreases grain position randomization, M3 randomizes grain pitch. MB1/2 control delay FX for the bells (synth is routed to FX2 with a dedicated combination of effects) and reverb mix in the master FX section.
Microtonal Bell Resynth	Re-synthesized ship bell, microtonal tuning (key follow -> 16% -> 1 octave = 2 semitones), MW adds FM/AM, AT increases FM/AM Rate. M1 introduces modulation of X-Side/Formant, M2 controls wavetable scan speed M3 adds an octave, MB1 adds frequency modulation/delay FX, MB2 engages reverb

Bells - Plucks	Comments / Controller Assignments
Physical featured in this audio demo	Multi-sampled physical modeling synth (5 pitches sampled between C1 – C5 / C0 – C4 in Avenger)in OSC1, re-synthesized bell wavetable in OSC2 (control volume with M3, transpose OSC2 up an octave with MB2). VEL increases AMP Spike/envelope decay-release, MW adds FM/AM and Rate distortion in OSC1 and modulates X-Side/ Formant in OSC2, M1 controls amount of the velocity sensitive LP filter envelope for OSC1, M2 increases detune and detune amount modulation via filter envelope1, MB1 controls delay mix.
Plastic Plucker used in this audio demo	Expressive pluck synth with FM using two oscillators, OSC2 tuned up an octave +1 octave in the Voicing section (volume OSC2 -> M1), Mod ENV1 modulates numerous things (e.g. spectral sweep/detune amount/SYNC in OSC1, FM amount/Formant in OSC2), it's decay time and also the decay time of the main amp envelope is increased by VEL (which also increases detune amount). M2 adds wave-shaper distortion (gain modulated by MOD ENV1, frequency with key follow, each oscillator uses it's own shaper), M3 controls LP cutoff (in Master FX), MB1/2 control delay/ reverb mix, MW adds FM/Noise in OSC1 and increases FM Rate in OSC2.
Shimmer Bells featured in this audio demo	Three processed Nepalese bell accents with long reverb/FX tails, sampled at 3 pitches (G3/G4/F6 - G2/G2/F5 in Avenger), OSC2 (use M2 for volume control) tuned an octave higher adds a short FM bell sound. M1 controls unison mix in OSC1, M3 introduces notch-filter modulation for the bells (Filter 3), MW introduces a tempo-synced gate sequence in OSC1 (and decreases compressor threshold in FX1). MB1 controls delay FX mix (MASTER FX), MB2 controls mix for both reverbs in FX2 (processing only OSC2) and the master section.
Train Bell Duet	A series of bell accents performed on a train bell, playing forward in OSC1, reversed in OSC2, OSC3 (use M2 for volume control) adds a pulsating synth sound (with auto-panning in AMP2) using a freeform shape run through a modulated BP filter (Filter2). Set sample start in OSC1/2 with M1, MW adds gated pulsation/FM/noise oscillator (STP SQ2) to the bell sounds and FM to OSC3 (via STP SQ1), M3 adds filter modulation in both filters via tempo-synced Mod ENV1, MB1 controls delay mix in FX1, MB2 controls reverb mix in MASTER FX.
Vibra Synth used in this audio demo	Multi-sampled vibraphone with individual vibrato speed changes per sampled note, layered with a synth sound derived from a re-synthesized vibra sound in OSC2 (volume OSC 2 -> M3, WT envelope modulates WT position/Formant/FM amount/ unison mix/detune). MW controls unison mix in OSC1 (with randomized detune amount), VEL increases spike amount. M1 introduces pan spread and pan modulation via LFO1, M2 smoothens attack and shifts sample start in OSC1, MB1 engages MULTIMOD FX, MB2 controls delay mix.

Brass	Comments / Controller Assignments
Brass Grains Split used in this audio demo	Lower half: granular unison brass swell, upper half: granular tonal brass texture (major^7) VEL shifts grain position, crossfade split between C3 – C4 (C2 – C3 in Avenger), the granular envelopes are not re-triggering when playing legato notes. MW detunes the grains, M1 controls grain speed, M2 decreases grain length/density and randomizes grain position, M3 introduces re-triggering, tempo-synced filter/ amplitude modulation (via MOD ENV1, LFO2/3), the amount of filter modulation is controlled via VEL. MB1 increases release time, MB2 engages flanger FX.
Brass Harmonics Granular	Multi-sampled overtones from trombone and sousaphone, root note and isolated overtone transitions, 4 different root notes in 4 granular oscillators, grain speed is synced, control grain speed with M1 (hard left = 4 bars (4/4) - hard right = 2 beats). M2 detunes the grains, M3 adds tempo-synced HP filter modulation (MOD ENV1) and filter drive, MW adds FM, FM rate modulated via LFO1. MB1 switches on/off flanger FX, MB2 switches on/off delay/reverb FX.

Brass	Comments / Controller Assignments
Epic Brass Swell Mix used in this audio demo	Long multi-samples with layered and crossfading trombone/sousaphone swells, 4 pitches were sampled between C1 - A#3 (C0 - A#2 in Avenger), the same samples were also processed with reverb and other effects and are layered in OSC2. M1 activates sample start modulation via VEL, M2 introduces a tempo-synced LP filter envelope (via MOD ENV1), M3 introduces FM/AM mayhem (LFO 3/4 modulation amount/rate), MB1controls ensemble FX mix, MB2 controls delay FX mix (both are located in FX1). MW introduces a gated sequence (STP SQ!) with modulated contour/decay (via LFO1/2).
Horn Swell Synth used in this audio demo	Multi-sampled french horn swells recorded in a church (12 pitches were sampled between A#0 – G3, samples are looped) layered with a WT synth (use M2 for volume control, M3 for tuning) using a WT extracted from a horn sample, LFO1 modulates several things in OSC2 (X-Side, volume, unison mix/detune/pan-spread, FM amount). M1 controls sample start in OSC1 and increases attack time, fully engaged it shifts the sample start point to the maximum of the crescendos. MW introduces tempo-synced, re-triggering LP filter modulation (LFO2 -> 4 bars) and wave-shaper distortion, AT introduces tempo-synced pulsation via STP SQ1/2, double time in the synth sound.
Surreal Horns	Processed french horn sounds in 3 oscillators (samples looped) and wave-tabled horn swell in OSC4 (routed to F2), oscillators are layered with crossfade split (check zones), crossfading start below C3 (C2 in Avenger). MW controls FM/AM amount in OSC 1-3 and introduces LFO2-controlled modulation of AM in OSC1/wave-shaper distortion/LP filter modulation. M1 shifts sample start in OSC 1-3, M2 decreases cutoff in the LP filter in FX1, adds cutoff/distortion mix modulation via LFO4 and controls flanger mix, M3 introduces a tempo-synced gate sequence in MASTER FX (via STP SQ1), MB1/2 control delay/reverb mix.

Drones	Comments / Controller Assignments
Bass Clarinet Dronescape used in this audio demo	3 layered wavetable oscillators using WTs extracted from various bass clarinet tones. Each oscillator has it's dedicated amp section with individual volume and pan modulation (via LFO2 1-3, engage modulation with M1), OSC1/2 also have fine-tune modulation going on. MW adds FM, AT adds vibrato, VEL decreases attack time, M2 introduces tempo-synced amplitude/filter modulation MOD ENV1/LFO4), M3 adds wave-shaper distortion and notch-filter modulation (F2->MOD ENV2), MB1 controls flanger FX mix, MB2 controls delay/reverb mix (all in FX1).
Cloud Castle used in this audio demo	Sweeping drone sound with an WT and an FFT oscillator. VEL modulates amount of FM/Detune/SYNC/Vibrato modulation via MOD ENV1. MW introduces tempo-synced, re-triggering amplitude/filter modulation (F2). M1-3 control amount of flanger/delay/ reverb mix. MB1 increases release time, MB2 tunes OSC2 up an octave.
Drama Drone	Multi-sampled unison pad with sub-octave, two extra detuned voices in the Voicing-section and modulated FM run through a sweeping LP filter (F1->MOD ENV1) layered with a digital sounding WT oscillator run through an envelope-controlled BP filter (F2), M1 controls volume of OSC2. VEL decreases attack time,MW introduces tempo-synced amplitude/pan/filter modulation (LFO 3/4 - MOD ENV2), M2 controls phaser FX mix, M3 controls LP cutoff (in FX1), MB1/2 control delay (with modulated BIT-RATE via MOD ENV3) and reverb mix.
Earth Droner	Dark drone with two components, OSC1 slowly scans through a WT with morphing saws, OSC uses a shape with X-Side modulation run through a tuned bandpass. Add stereo wave-shaping to OSC1 with M1, M2 introduces comb-filter resonance/positive polarity in both oscillators and also adds AM, comb-filter frequency and AM Rate are modulated via free-running LFO3. M3 increases detune, MB1 adds a sub-oscillator to OSC1, MB2 controls delay mix (post-reverb in FX1), MW adds a tempo-synced gate sequence (STP SQ1) and introduces tempo-synced, random formant modulation in OSC1 (via LFO1), Glide is activated.

Drones	Comments / Controller Assignments
Flute Wind Drone used in this audio demo	A long processed bass flute drone with breathing sounds in the second part of the sample, split up into two segments in two oscillators with different starting point and individual amplitude modulation at different tempo-synced speeds (LFO1/2), OSC3 (routed to F2 with VEL-sensitive filter envelope) adds a re-synthesized/wave-tabled flute sound. M1 introduces pan modulation with inverted polarity in AMP1/2, M2 engages filter modulation for OSC 1/2 (in F1/3), M3 introduces a pitch envelope for OSC2 (with a 1-octave range when fully engaged). MW modulates HP cutoff/ resonance/drive in the FX filter (FX1), AT adds vibrato in OSC1/2, MB1/2 control reverb/delay mix.
Formant Drone featured in this video used in this audio demo	Big evolving drone combining a WT oscillator with a FFT/BIN sound. OSC1 is routed to F1 (LP), OSC2 is routed to F3 -> F1 (LP - Talk/Formant filter), MOD ENV1 modulates OSC1 Formant/OSC2 FM, MW introduces tempo-synced amplitude modulation via MOD ENV2. M1 controls WT scanning speed in OSC1, M2 adds wave-shaper distortion, M3 adds SYNC modulation via tempo-synced LFO4, MB1/2 activate the FX sends for each oscillator.
Meander Drone	FFT oscillator with morphing partials in OSC1 meets wavetable drone in OSC2, MW increases unison mix/detune and increases meandering speed (pan/X-Side/FM modulation/WT scanning), AT controls wave-shaper amount. M1 introduces dual filter modulation (F1 HP->F2 Notch serial routing, modulated by free-running, unipolar LFO3), M2 introduces tempo-synced formant/amplitude modulation (MOD ENV1/ LFO4), M3 controls mix level of stereo tool and phaser FX (in FX1), MW also increases phasing speed.
Mercury Swamp	Layered, evolving drone meets sax texture in the upper half. OSC1 uses a re-synthesized bamboo sound with formant/X-Side/LP filter modulation, OSC2 adds a WT extracted from a bowed guitar, OSC3 (volume assigned to M1) uses a textural soprano sax sample and fades in above C3 (C2 in Avenger), AT increases unison detune in all oscillators. M1 controls volume of OSC3, M2 introduces a tempo-synced gate sequence (STP SQ1), M3 controls LP cutoff in the master filter. MW adds FM/ pitch mayhem, increases LFO speeds (2/3) and also increases feedback in the flanger which is processing OSC1/3 in FX1.
Metusa Drone	Multi-sampled drone texture in OSC1 (sampled at C1/C3/C5 - C0/C2/C4 in Avenger) layered with a sound effect texture in OSC2 which is set to a microtonal tuning (key follow -> 25%) and has constant pitch modulation applied via random LFO1. MW controls unison mix, adds wave-shaper distortion (frequency gain modulated via synced LFO2) and LP filter modulation (also LFO2). M2 introduces a combination of tempo-synced amplitude modulation (LFO3) and FM modulation (amount via LFO2, Rate via Mod ENV1). M3 controls amount of very fast vibrato (AM), AT decreases vibrato speed, PB only affects OSC2 (+/- 1 octave).
Octave King	Organ-like electronic drone in OSC1 (routed to F1) meets WT synth in OSC2 (F2). M1 introduces a gate sequence, M2 adds cross FM in OSC1 and normal FM in OSC2, M3 controls the master LP filter. MB1 engages phaser FX, MB2 engages tempo-synced grain spread pitch modulation (+/- 1 octave). MW adds tempo-synced random filter modulation in both filters.
Rising Curler featured in this audio demo	Two component wavetable drone with tempo-synced WT scanning and individual filter modulation for each oscillator (in F1/2). MW introduces tempo-synced random modulation of X-Side in OSC1/FM Rate in OSC2, M1 adds SYNC-modulation via MOD ENV2, M2 introduces tempo-synced amplitude modulation via MOD ENV2, M3 controls distortion mix (in MASTER FX), MB1/2 control reverb/delay mix.
Steel String Drone featured in this video	Re-synthesized/wave-tabled piano string accent in OSC1, single cycle shape with FFT modulation in OSC2/3, the latter is routed to F2 (modulated BP filter) and has a second voice with panning action in the Voicing section. OSC1 has X-Side/Formant modulation applied via LFO 1/3. MW increases unison mix in all three oscillators and detune amount in OSC1, AT adds vibrato in OSC1. M1 introduces FM in OSC 1/2 and wave-shaper distortion in OSC1, M2 controls volume of the sub-octave in OSC1/2 (Voicing section), M3 introduces audio-rate modulation via MOD ENV 1 in OSC2, MB1/2 control delay/reverb mix.

Drums - Percussion	Comments / Controller Assignments
Acoustic Kit Meets Djembe Bass	12 acoustic drum samples (toms, snares, rim-shots, cymbals) mapped from C2 – B2 (C1 – B1 in Avenger). Four FX busses with different compressor/distortion/reverb settings process the individual hits, multi-band compressor is active in the MASTER FX. Mapped from C3 – C5 (C2 – C4 in Avenger) there is a djembe hit layered with a synth bass (routed to FX4), VEL increases FM in the djembe sound (routed to FX1) and formant modulation in the synth via filter envelope 1. M1/2 are individual volume controls for the bass components, MB1 controls reverb mix in FX1, MB2 controls delay FX mix in FX3.
Alien Angkelungs featured in this video	Multi-sampled Angkelung tremolos, looped (3 pitches sampled at A3-A4-A5 -> A2-A3-A4 in Avenger), re-triggering, unipolar LFO1 modulates unison mix/pan spread, MW adds FM mayhem, M1 adds fast vibrato (AM), AT reduces vibrato speed, M2 adds wave-shaper distortion, M3 introduces modulation of the RM filter in Filter 1 (via LFO2). MB1 activates the reverb send.
Angkelungs Granular	Multi-sampled Angkelung tremolos in granular mode, looped (3 pitches sampled at A3-A4-A5 -> A2-A3-A4 in Avenger), AT controls grain speed. Re-triggering, unipolar LFO1 modulates unison mix/pan spread, MW adds FM, M1 randomizes grain pitch and introduces pitch modulation with modulated vibrato speed (via MOD ENV 1). M2 adds tempo-synced Trash Rate-filter (F2) modulation via LFO2, M3 adds tuned comb-filtering (F1). MB1/2 engage convolution reverb/delay FX.
Bamboo Chimes Duet featured in this video used in this audio demo	Two bamboo chime textures in two OSC 1/2 (routed to FX1) with inverted auto-panning, key tracking for pitch is set to 50%, 1 octave -> 6 semitones. OSC3 (routed to FX2) adds a re-synthesized bamboo sound with formant/X-Side/LP filter modulation and octave changes every 4 beats via ARP1, AT increases unison detune in OSC3. M1 controls volume of OSC3, M2 sets the range of randomized sample start, M3 introduces HP filtering/wave-shaping in the bamboo samples, MW adds FM mayhem in OSC1/2, pitch mayhem in OSC3, increases LFO speeds (2/3) and also increases feedback in the flanger which is processing OSC3 in FX2.
Breakdrums 4 VEL Microtonal	A car break disc sampled at 4 velocity layers in 4 oscillators, microtonal tuning (key follow -> 33.34%), VEL increases spike amount, MW randomizes pitch (transposing downwards) M1 randomizes sample start, M2 introduces a fast pitch glissando (PITCH1), MB1 slightly increases spike amount and decreases release time/sustain level (so fast decay becomes active), MB2 controls reverb mix, PB is set to +/- 2 octaves.
Framedrum Kit featured in this audio demo	12 dry and processed frame-drum samples in the drum sampler mapped from C2 – B2 (C1 - B1 in Avenger) processed individually via the sends to the SEND RACK. M1 randomizes pitch in 3 of the slots (E2 -> Snare 2, A2 -> Ride, A#2 -> Open HH), M2 controls amount of pitch envelope applied to slots C12/G2 (Bassdrum/Percussion 1). Mapped from C3 – B2/C4 – B4 are two processed/granulated frame-drum textures, control their sample start with M3, add FX with MB1/2 (delay/convolution FX), PB is set to +/- 2 octaves for the FX drums.
Marching Drum Meets Djembe Split	Three percussion samples in three oscillators (1 -> FX1, 2/3 -> FX2) split across the keyboard, mapped from C1– C3 (C0 – C2 in Avenger) is a deep marching drum accent, mapped from C3 – B4 (C2 – B3) is djembe accent 1, mapped from C5 – C7 (C4 – C6) is djembe accent 2. MB1 enables velocity-modulated envelope modulation (F1 envelope) of pitch in OSC1. M1 adds FM (Rate in OSC2/3 is randomized per note via LFO1), M2 randomizes the djembe pitches (per note), M3 controls mix level for the two delay modules in FX2, MB2 switches the reverb modules in both FX busses (convolution reverb in FX1. MW decreases LP filter cutoff and increases filter drive. PB is set to +/1 1 octave.

Drums - Percussion	Comments / Controller Assignments
Timpani 4Vel And Tremolos	Multi-sampled pedal timpani, sampled at 3 pitches D1/G1/B1 (D0/G0/B0 in Avenger) and 4 velocities (in 4 oscillators routed to FX1), the highest timpani is mapped up to C3 (C2), VEL increases release time (AMP1), shorten release time with MB1. Mapped between C3 – C6 one octave each in oscillators 4-6 (routed to AMP2/FX2) are three different looped tremolo/swells, M1 sets sample start to the maximum of each crescendo, M2 controls LP cutoff (MASTER FX), M3 controls convolution reverb mix. PB is set to +/1 1 octave.

Leads	Comments / Controller Assignments
Bassoon Leader used in this audio demo	Rich monophonic lead sound using a WT extracted from a bassoon tone. WT envelope only re-triggers when playing non-legato, Glide is activated. MW adds FM/vibrato, AT also adds FM and modulates X-Mid, M1 increases unison mix and detune amount modulation via LFO1, M2 adds wave-shaper distortion, M3 controls the volume of the octave (Voicing section), MB1/2 control delay/phaser mix.
Flutified used in this audio demo	Re-synthesized flute phrase in OSC1/2, OSC2 using the 2nd part of the wavetable, transpose OSC2 up an octave with MB1, OSC3 (routed to FX22) uses a single cycle waveform. M1/2 are volume controls for OSC1 - OSC2/3, MW modulates FM amount in OSC1/3 and increases LP cutoff in F1. M3 introduces tempo-synced LP filter modulation (via MOD ENV1/LFO3), MB2 controls delay mix in MASTER FX.
Mono Vocal Lead used in this audio demo	Monophonic lead using a wavetable extracted from a female vocal swell, AT adds vibrato, MW shifts the frequency of the tuned BP filter in F1 down an octave and adds FM, M1 engages LP filter modulation in F2 via free-running LFO2, M2 adds wave-shaper distortion and controls mix of the VINYLIZER in FX1, M3 controls volume of the noise oscillator, MB1 controls chorus FX mix, MB2 controls delay/reverb mix. Glide is activated.
Squelsh Lead	Brassy lead sound using a single cycle waveform extracted from a french horn in OSC1 and a triangle waveform in OSC2 (tune OSC2 up a perfect fifth with MB1). The filter envelope (F1) modulates numerous parameters via VEL (unison/detune, X-Side, Formant), VEL also modulates envelope attack/decay time in the filter envelope. AT adds vibrato, MW controls amount of SYNC ENV amount in both oscillators and adds wave-shaper distortion (also via envelope in F1).
Vocalesque Formant Lead	Monophonic lead sound using a WT extracted from a female vocal phrase, layered in two oscillators with OSC2 playing the WT reversed, OSC3 adds a triangle wave routed through a tuned BP filter with some filter drive. MW adds vibrato, AT increases unison detune. M1 adds free-running formant modulation (LFO2). M2/3 control amount of chorus/delay, MB1 engages reverb, MB2 engages Glide.

Pads	Comments / Controller Assignments
Angel Pad featured in this audio demo	Re-synthesized synthetic vocal texture in OSC1/2 (WTs playing in opposite directions) routed to a combfilter/LP filter in F1/2, OSC3 (volume control with M2) adds a synth with moving partials routed to a BP filter in F3. MW modulates Formant in OSC1/2 shifts NSWEEP in OSC3 and increases modulation speed for the BP filter modulation in F3, M1 increases WT scanning speed and the partial morphing in OSC3, M3 controls chorus FX mix, MB1/2 control reverb/delay mix.
Ballad Pad featured in this audio demo	WT synth layered with analog oscillator (saw routed through tuned BP filter), MW modulates X-Side/SYNC-ADD in OSC1 and BP cutoff in OSC2. Add LP filter modulation in OSC1 with M1, M2 introduces tempo-synced amplitude modulation (LFO4/MOD ENV2), M3 controls delay mix. Increase release time with MB1, switch on/off reverb with MB2.

Pads	Comments / Controller Assignments
Bassflute Table Pad used in this audio demo	Warm pad using a WT extracted from a bass flute tone, the same WT is used in both oscillators, OSC1 is routed to velocity sensitive F1 (LP), OSC2 (use M2 for volume control) is tuned an octave higher and is routed to F2 (HP). MOD ENV1 modulates X-SIDE in OSC1/vibrato amount, detune, volume in OSC2 /cutoff in F2 via VEL. MW adds FM, AT adds vibrato in OSC1, M1 introduces a tempo-synced gate sequence (STP SQ1), M3 controls phaser FX mix.
Bowed Guitar Pad featured in this video	OSC1 (routed to F1) uses a WT extracted from a bowed guitar tone, OSC2 (routed to a tuned BP in F2 -> LP in F3) adds an FFT/BIN sound. MOD ENV1 via VEL modulates X-Side in OSC1 and cutoff in F1 when M2 is engaged. M2 controls unison mix/detune amount, M3 adds pan modulation (per voice) via LFO3. MW introduces tempo-synced Formant/filter modulation via STP SQ1, AT adds vibrato in OSC1. MB1 controls chorus mix, MB2 controls delay/reverb mix.
Calm Vocal Pad used in this audio demo	Smooth vocal pad with tuned bandpass filtering, using a WT extracted from a female vocal tone in OSC1, OSC 2 adds FFT sound with freely drawn harmonics. AT detunes the two additional voices in OSC1 (Voicing section) and increases unison detune in OSC2, MW increases the band width in the BP filter. M1 adds a stereo gate sequence (STP SQ1), M2 uses the same sequence to modulate the filter (+ some modulation via LFO2 which also modulates the CONTOUR parameter in the step sequence), M3 controls phaser FX mix, MB1/2 control delay/reverb mix.
Cello Pad featured in this audio demo	Re-synthesized/wave-tabled cello sound meets FFT synth, WT scanning speed, voice detune in OSC1, unison detune/vibrato speed in OSC2 are modulated via random LFO1, MB1 transposes OSC1 up an octave. Unipolar LFO2 modulates unison mix in OSC1 and spectral sweeping/vibrato amount in OSC2, M1/2 are individual volume controls for each oscillator. AT adds vibrato, MW adds FM in both oscillators, adds wave-shaper distortion in OSC1, introduces an octave (Voicing section) and shifts X-Mid in OSC2. M3 controls chorus FX mix (with modulated speed via LFO3), MB2 controls delay mix.
Crotales Pad featured in this audio demo	OSC1/2 (routed to FX1) use a re-synthesized/wave-tabled bowed crotales sound, OSC3 (routed to FX2) adds an FFT/BIN sound with moving partials, M1 adds a sub-octave in OSC3 (Voicing section). All oscillators are routed to the LP filter in F1 with velocity-sensitive envelope action, OSC1 is also routed to the tuned BP filter in F2 (MW modulates cutoff -> overtone melodies), vibrato amount in OSC1 is modulated via LFO1. M2 controls volume of OSC2, M3 controls wave-shaper mix (in FX1) and controls amount of negative mix modulation via LFO2.
Embracer featured in this audio demo	Multi-sampled unison pad, 7 pitches sampled between C0 – C6 (C-1 – C5 in Avenger), samples are 45+ seconds long and looped, MW introduces tempo-synced amplitude/pan modulation (via MOD ENV1/LFO2), AT adds vibrato, M1 controls unison mix and the volume of a second detuned voice in the Voicing-section, M2 introduces the velocity sensitive filter envelope, M3 degrades the sound by adding FM/AM and mixing in phaser/VINYLIZER in FX1. MB1/2 control delay/reverb mix.
Epica Pad used in this audio demo	Multi-sampled warm analog pad in OSC1 layered with a more glassy/metallic multi-sampled sound in OSC2 (use M2 for volume control), 7 pitches between C0 – C6 were sampled for each layer, samples are 40+ seconds long and looped. MW controls unison mix in both oscillators (detune amount modulated via LFO1), adds wave-shaping in OSC1, vibrato in OSC2 and controls ensemble FX mix in FX1. M2 controls the amount of MOD ENV1-controlled LP filter cutoff modulation in F1 via VEL, M3 introduces tempo-synced amplitude modulation (via LFO2/3), tempo-synced pan modulation (via LFO4) and some dynamic compression (FX1). MB1/2 control delay/reverb mix.

Pads	Comments / Controller Assignments
Mellow Sax Pad	Soprano sax sustained notes with vibrato in OSC1 (2 pitches sampled at F3/D4 - F2/D3 in Avenger, sound fades out in the top octave between C5 – C6), a re-synthesized/wave-tabled soprano sax sustain in OSC2 (routed to LFO2-modulated F2, use M1 for volume control), VEL shifts sample start in OSC1 to the beginning of the samples, providing a more natural attack. LFO1 modulates vibrato amount in both oscillators and detune amount in OSC1. MW adds FM/AM, modulates X-Side/ Formant in OSC2 and adds ROTARY FX in OSC1 (FX1). M2 introduces LP filter cutoff/resonance modulation in OSC1/F1 via tempo-synced MOD ENV1/LFO3. M3 controls phaser FX mix in OSC2 (FX2), MB1/2 control delay/reverb mix.
Padded Flutes	Re-synthesized bass flute tones, two different WTs in 2 oscillators, OSC2 is tuned up an octave (use M1 for volume control), Formant in OSC1 is modulated by key follow, WT envelope in OSC1 is free-running. MW modulates X-Cite in both oscillators, decreases drive in F2 (OSC2) and adds FM in OSC1, AT adds vibrato. M2 introduces tempo-synced amplitude/pan/filter modulation and controls phaser FX mix (FX1). M3 adds LFO3-controlled HP filter cutoff/resonance modulation and chorus mix modulation in FX1, MB1/2 control delay/reverb mix.
Triple Sweeper	Three cascading BP filter sweeps (filter 1-3 modulated by Mod ENV 1-3 via VEL), all oscillators use the same wavetable (extracted from a unison saw pad), each oscillators has it's dedicated amp envelope with different pan positions. M1 animates the filters rhythmically (dedicated LFOs 2-4 assigned to filters 1-3), M2 engages a tempo-synced volume gate (STP SQ1), M3 controls flanger mix (FX1), MB1/2 control delay/reverb mix, MW increases unison detune.
Valley Pad featured in this video used in this audio demo	Cinematic pad with two oscillators using the same WT, OSC1 is routed to F1 (LP modulated by free-running LFO1), WT scanning speed/X-Side modulation speed via LFO2 and filter modulation speed can be increased with M1, M2 controls the volume of the sub-octave in OSC1 (Voicing section). OSC2 is routed to the tuned BP filter in F2, MW increases cutoff in both filters (-> overtone melodies in F2), M1 decreases release time.
Vowel Dreamer used in this audio demo	Wave-tabled vocal vowels, both oscillators use the same WT, the WT is free-running in OSC2. Free-running LFO1 is modulating Formant/LP filter cutoff, detune/vibrato amount in OSC1, amount of SYNC modulation in OSC2 via tempo-synced LFO3. M1 controls phaser/delay mix (in FX1, phaser resonance/feedback is modulated via LFO2), M2 introduces a tempo-synced gate sequence (STP SQ1), gate strength is modulated by LFO1, sequence speed is modulated by MOD ENV1. M3 controls volume of OSC2 which has tempo-synced, rectangular octave modulation applied (LFO3), MB1 controls reverb mix.
Warm Me Up used in this audio demo	Lush wavetable pad with gate animation, OSC2 (use M2 for volume control) uses a noise oscillator run through a tuned BP filter (F2), VEL controls amount of LP cutoff modulation in F1 via the WT envelope in OSC1, MW modulates X-Side, adds FM in OSC1, adds wave-shaper distortion and filter drive, AT adds vibrato in OSC1 (vibrato amount is also modulated by LFO1). M1 introduces tempo-synced, random filter modulation via LFO4, M3 introduces a tempo-synced volume gate sequence (STP SQ1) and SYNC modulation via LFO3, MB1/2 control phaser/delay mix (FX1).

Soundscapes	Comments / Controller Assignments
Andean Morning	Upper half: tonal soundscape in granular mode. Lower half: synth drone with two oscillators (FFT/WT). Overlapping split point: C3 (C2 in Avenger). Each split sound has it's dedicated filter, individual. Tempo-synced gate sequences can be dialed in with Macros 1/2, amount of filter modulation is controllable via Macro 3. MW adds tempo-synced pitch modulation in both split sounds, square-shaped in the upper half (Mod ENV 4 – +1 octave with MW fully engaged), ramp up in the lower sound (MOD ENV6).

Soundscapes	Comments / Controller Assignments
Appeasement used in this audio demo	One-finger soundscape consisting of a tempo-synced, granular bell texture in OSC2, a minor chord in OSC1, and the tail of the bell-scape in OSC3. Control volume of the pad/tail with M1/2, M3 introduces tempo.synced, re-triggering filter modulation - LP filter for OSC1/2, HP filter for OSC3. MW diffuses the grains in OSC2 and adds tempo-synced, re-triggering amplitude modulation for OSC1/2. MB1 engages reverb, MB2 engages delay/phaser FX.
Birds Of Light used in this audio demo	OSC1 -> tonal texture made from/with a re-synthesized bird sample OSC2/3 -> two field recordings of birds singing in the woods, OSC2 (->AMP2) is run though a tuned BP filter, OSC3 (-> AMP3) through a notch-filter, LFO3 modulates panning in AMP2/3 (inverted polarities). M1 shifts sample start in all oscillators, M2 adds LP filter modulation (via F1/Mod ENV1) and wave shaper distortion in OSC 1/3, M3 dials in a combination of convolution reverb/long delays and algorithmic reverb. MW adds FM/AM in all oscillators.
Dark Granular Morph used in this audio demo	Granular OSC1 (routed to F1/3) plays a tonal texture made from audio-morphing a trombone sound with a psaltery tone, OSC2 (routed to F2) adds a WT synth using a WT extracted from a Zither accent. MW adds cross-FM/FM, M1/2 control grain position/speed in OSC1, M3 adds re-triggering, tempo-synced filter modulation in both oscillators, amplitude modulation in OSC1 and adds chorus FX (FX1). MB1/2 engage delay/reverb FX.
Delusive Heaven	Tonal soundscape sampled at two pitches (F#1/C#4 – F#0/C#3 in Avenger), each sample is layered with itself, the 2nd layer having a different starting point and amplifier (with inverted auto-panning via re-triggering LFO1 when M1 is engaged), the key-zones crossfade between C3 – C4 (C2 – C3 in Avenger). VEL decreases attack time, AT adds vibrato (random LFO2 modulates vibrato speed), MW adds tempo-synced filter modulation (cutoff/resonance) via re-triggering LFO3/4. M2 controls volume of the noise oscillators in OSC2/4 (noise color modulated via free-running MOD ENV1) and phaser mix in FX1, M3 adds notch filter modulation via MOD ENV1 (cutoff) and LFO3 (resonance). MB1/2 control delay/reverb mix (MASTER FX).
E-Bow Grains featured in this video	Granular e-bow texture in OSC1 layered with granular synth pad (sampled at two pitches) in OSC2/3. MW detunes the grains and increases grain position randomization, VEL slightly shifts the grains in the synth sound. M1 introduces filter modulation, each layer having it's dedicated filter (band reject for the e-bow, tuned BP for the synth), M2 adds tempo-synced amplitude modulation, M3 controls grain time. AT shifts grain position in OSC1 if MB1 is engaged, MB2 switches /on/off reverb FX.
E-Bow Scape featured in this video	A long processed e-bow guitar scape playing in OSC1/2 (with different starting point), OSC1 has modulation of FM/AM applied (via STP SQ 1/2 - LFO2), modulation of unison mix (LFO1) and wave-shaper distortion, OSC3 (use M1 for volume control) adds a synth sound with tempo-synced octave modulation (MOD ENV1), OSC4 (use M2 for volume control) adds an arpeggiator melody, M3 controls release time. Filter1 (LP) processes all oscillators, OSC3/4 are also routed to the BP in Filter2. MB1/2 control delay/reverb mix, MW adds a tempo-synced gate sequence to all sound sources.
Favorite Planet Featured in this video	Cosmic soundscape with two granular sources, crossfade split between C3 – C4 (C2 – C3 in Avenger). Control grain position with M1, M2 increases grain speed and speed of the envelope which modulates various parameters like amount of grain randomization/density/size. M3 introduces re-triggering, tempo-synced LP filter modulation via MOD ENV2. MW adds tempo-synced amplitude modulation, cuts low frequencies and engages EQ notch-filtering (Master FX), MB1 engages a weird mixture of pitch and stereo modulation (FX1), MB2 switches on/off delay/reverb FX.

Soundscapes	Comments / Controller Assignments
Filter Planets	Mysterious electronic soundscape with resonating filter drops, OSC1 plays the dry version, OSC2 the processed/reverberated version (use M3 for volume control), tuning is set to microtonal (key follow 50% -> quarter tones). Each OSC has it's dedicated amplifier for inverted auto-panning via LFO1 when MW is engaged. MW also introduces random pitch modulation via LFO2, LFO2 speed is modulated by LFO1. AT decreases LP filter cutoff and controls amount of wave-shaper distortion. M1 sets sample start, M2 adds flanger FX to OSC1 (FX1), MB1/2 control warped delay/convolution reverb mix.
Frozen Fields featured in this audio demo	Dissonant, metallic soundscape multi-sampled at 3 pitches (C1/C3/F#5 - C0/C2/F#4 in Avenger), MW adds very fast vibrato (AM), vibrato speed modulated by LFO1, AT adds random pitch modulation via LFO2, M1 adds FM, M2 sets sample start, M3 decreases LP filter cutoff, adds cutoff modulation via LFO1, adds filter drive and wave-shaper distortion, MB1/2 control mix of delay/MULTIMOD FX (in FX1)
Glass Wind used in this audio demo	Dense glass chime texture made by overdubbing several different sized glasses, layered in OSC1/2 with different sample starting points, OSC1 is filtered via F1 (combfilter) and F3 (tuned BP), control volume of OSC1 with M1, OSC2 is routed to F2 (with key follow to reduce the sample aliasing in the low register). M3 adds a re-synthesized, tonal chime texture (made with Metasynth). Each oscillator has it's dedicated volume control (M1-3), AT -> decreases LP filter cutoff (Master FX), MW adds pitch/timbral modulation, MB1 engages delay (Master FX), MB2 controls reverb mix in FX2 (processing OSC2/3).
Granular Bamboo	Granular bamboo chime texture, MW engages the tuned comb-filter, M1 diffuses the grains, M2 controls grain speed, M3 adds wave-shaper distortion. Engage random sample start with MB1, MB2 switches on/off delay/reverb FX.
Granular Tube featured in this video	Harmonic plastic tube sample with overtone transitions playing in granular mode with cross FM (OSC2 - flute texture), MW controls cutoff/resonance in the RM filter, M1 decreases grain size/density/amount of grain position randomization, M2 controls grain speed, M3 controls amount of cross FM. AT modulates grain position if MB1 is engaged, MB2 switches on/off delay/reverb FX.
Harmonic Tubes featured in this video	Four harmonic plastic tube samples with overtone transitions layered in 4 oscillators, OSC5 (use M2 for volume control, AT increases free-running WT envelope speed) adds a re-synthesized tube sound, is routed to F2 (modulated by LFO1) and has a 2nd voice added in the Voicing section with detune modulation (also LFO1), X-Side/ Formant are modulated by LFO2/3. M1 controls unison mix and adds FM/AM in all tube sounds, M3 sets sample start, MW decreases LP filter cutoff, adds filter drive and wave-shaper distortion. MB1 controls delay mix, MB2 engages a combination of reverb and phaser FX (post reverb).
Resonance Fields	Two tonal soundscapes layered in granular OSC1/2 (minor/suspended), balance with Macro 3. M1/2 control grain position/speed, MW introduces LP/BR filter modulation and adds wave-shaper distortion. MB1 engages phaser FX, MB2 engages reverb/ delay FX.
Rubber Gong Grains used in this audio demo	Four gong sounds produced by rubbing a large rubber ball mounted on a stick on the gong surface, running in 4 granular oscillators, M1 controls grain speed, M2 adds tempo-synced modulation of wave-shaper distortion and LP filter, M3 animates the grains and adds FM. Add a tuned comb-filter with MB1, MB2 engages delay/reverb FX, MW randomizes grain pitch.
Rubberball Gongs Split 01 featured in this audio demo	Gong sounds produced by rubbing a large rubber ball mounted on a stick on the gong surface, 3 samples split across the keyboard (routed to F1/FX1), split points C2/C5 (C1/C4 in Avenger), unison mix is modulated by re-triggering LFO2. Each sample is layered with it's re-synthesized version (free-running WTs), MW controls the volume of these synth drones (OSC4 - 6 routed to F2). VEL shifts sample start in OSC1, M1 adds FM in all oscillators, M2 modulates FM RATE only in the gong samples, M3 introduces LP filter modulation in both filters via LFO1/3 and adds wave-shaper distortion.

Soundscapes	Comments / Controller Assignments
Rubberball Gongs Split 02	Gong sounds produced by rubbing a large rubber ball mounted on a stick on the gong surface, 2 samples split across the keyboard (routed to FX1), split point C3 (C2 in Avenger). Each sample is layered with it's re-synthesized version (free-running WTs) in OSC3/4 (routed to FX2, use M3 for volume control), the upper synth has Formant/FM modulation applied via LFO1, both synths have free-running LFO3 modulation detune amount. MW adds FM/AM, wave-shaper distortion (split stereo bands) and LP filter modulation via LFO2, M1 shifts sample start in OSC1/2 and increases attack time (AMP1), M2 controls unison mix in OSC1/2 (detune amount modulation via LFO1). MB1/2 control delay/reverb mix, PB is set to +/- 1 octave.
Rubberball Gongs Split 03	Gong sounds produced by rubbing a large rubber ball mounted on a stick on the gong surface, 3 samples split across the keyboard, split points C2/C4 (C1/C3 in Avenger), the middle sample has a reversed 2nd half, all samples are looped. MW adds FM/AM (Rate modulated by random LFO1) and introduces unison mix. M1 shifts sample start, M2 introduces LP filter cutoff modulation (LFO2) and wave-shaper distortion with modulated frequency gain (LFO3), M3 introduces pan modulation (per voice) via re-triggering LFO4. MB1/2 control delay/reverb mix.
Shifting Planets	Two long samples of tonal electronic textures with irregular accents in OSC1/2 (routed to F1/FX1), crossfade split between C2 – C4 (C1 – C3 in Avenger, check the ZONES-page), a WT made by re-synthesizing an abstract image in Serum is used in OSC3 (routed to F2/FX2) mapped over the entire range (C0 – C7) - fading out towards the top end, M1 controls volume of OSC2, random LFO1 modulates WT Index/FM amount/Formant in OSC3 and F2 cutoff. MW adds FM (FM Rate -> LFO3), M2 shifts sample start in OSC1/2, M3 introduces HP filter cutoff/resonance/drive modulation in F1 via MOD ENV1 (speed modulated by LFO1) and MOD ENV2, AT decreases speed of MOD ENV which runs at audio rate speed. MB1 controls reverb mix in MASTER FX, MB2 controls delay mix in FX2 which is processing the synth in OSC3.
Singing Bowl Abyss featured in this audio demo	Three processed singing bowl accents with crossfading velocity zones in OSC1-3 (routed to the modulated notch-filter in F1), a re-synthesized/wave-tabled bowl in OSC4 (use M2 for volume control) routed to F1 -> F2, LFO3 modulates X-Side/ detune amount in OSC4. M1 shifts sample start and increases attack time in AMP1, M3 adds audio rate modulation via MOD ENV1 (speed modulated by LFO2) assigned to pitch in OSC1-3. MW adds FM in all oscillators, MB1 controls reverb mix (MASTER FX), MB2 controls delay mix for the synth in FX2.
Sparkle Flute Scape featured in this audio demo	Multi-sampled, tonal, flutish soundscape sampled at 3 pitches in OSC1, a re-synthesized drone sound in OSC2, VEL controls amount of filter envelope modulation via MOD ENV in OSC2. MW adds fast pitch modulation in OSC1, AT decreases modulation speed. M1 controls volume of the drone, M2 introduces filter modulation the sample oscillator, M3 adds phasing to the samples. MB1/2 engage reverb/FX combo drone (chorus/delay).
Sweeping Sphere used in this video	Multi-sampled tonal sweeps made with Kaleidoscope and other things, sampled at 3 pitches C3/C4/C5 (C2/C3/C4 in Avenger), the 2nd part of each samples reverses the sound, samples are looped. OSC2 (routed to F2 -> F3) with X-Side modulation via LFO4/FM modulation via LFO3 adds a fast arpeggiator, it's volume is assigned to MW. The samples are routed to the LFO1-modulated combfilter in F1 (M1 controls amount of combing) and to the LP in F2, M3 introduces amount of LP cutoff/ resonance modulation via velocity-controlled MOD ENV2, M2 controls unison mix in both oscillators and adds vibrato in OSC1, MB1 engages the ensemble FX in FX1 processing OSC1, MB2 controls reverb mix in MASTER FX.
Void Sun Split featured in this video	Granular split – dense industrial drone-scape in the lower half meets mysterious tonal texture in the upper half, crossfade split between C3 – C4 (C2 – C3 in Avenger). MW introduces granular mayhem (pitch/position/grain length). M1/2 control grain speed/ position, M3 engages LP filter modulation and wave-shaper distortion. MB1/2 engage reverb/delay FX.

String (5 +1Var)	Comments / Controller Assignments
Dual Dream Guitar demonstrated in this video	Multi-sampled nylon guitar (15 pitches sampled between E1 – A#4) meets multi-sampled flageolet guitar (10 pitches sampled between A2 – E4), each oscillator has it's dedicated volume control (M1/2), MB1 randomizes sample start and fine tuning and engages pan spread, MB2 decreases release time/sustain level, increases filter drive and activates a velocity sensitive LP filter envelope, M3 adds wave-shaper distortion and slow, free running LP filter modulation in Filter 2, MW controls chorus FX mix, VEL controls loudness and spike amount.
Granular Piano Strings	Multi-sampled piano strings (Blüthner grand piano) plucked with a pencil, a sequence of irregular accents on each string sometimes faster double and triple accents, samples are up to 1+ minute long. 4 of the sampled pitches are used in this patch distributed over 4 granular oscillators, Macro 1 alters grain position randomization/ direction/detune, M2 controls grain speed and decreases grain length, M3 introduces tempo-synced, re-triggering modulation of wave-shaper distortion and LP filter, AT modulates grain position. MW adds FM (with LFO-modulated FM rate), MB1/2 switch on/off phaser/delay/reverb FX.
Oud Trem Synth	Re-synthesized/wave-tabled oud tremolo, the same WT is used in both oscillators, OSC1 plays the WT free running backward/forward, OSC is tuned an octave lower and plays the WT re-triggering and forward/backward. Control WT scanning speed with M1, add a sub-octave in both oscillators with M2, M3 engages LP filter modulation (re-triggering LFO2). MW controls unison mix/detune amount, AT adds vibrato, MB1/2 control delay/chorus mix.
Pencil Piano Spectral	Multi-sampled piano strings (Blüthner grand piano) plucked with a pencil, spectrally re-synthesized and sampled at 5 pitches between C1 - C5 (C0 - C4 in Avenger). MW introduces tempo-synced amplitude modulation (via MOD ENV 2), M1 controls unison mix (detune is modulated via LFO1), M2 engages a tempo-synced filter envelope (MOD ENV1) in combination with tempo-synced LFO2 (it's depth modulated by LFO3), M3 adds split wave-shaper distortion. MB1 engages phaser FX (feedback modulated via MOD ENV 3), MB2 controls delay mix.
Pencil Piano XT	Extended version of the patch below, the sample map is layered with itself in OSC2 an octave higher run through a modulated bandpass filter and in a third oscillator layering a re-synthesized pencil string sound.
Pencil Piano featured in this audio demo	Multi-sampled piano strings (Blüthner grand piano) plucked with a pencil, 9 pitches were sampled between C0 – C4 (C-1 – C3 in Avenger), a sequence of irregular accents on each string sometimes faster double and triple accents, samples are up to 1+ minute long and looped. AT introduces tempo synced pitch modulation (via pitch envelope), M1 controls sample start point, M2 adds LP filter modulation (LFO2), M3 adds tempo-synced wave shaper and FM modulation. MW introduces unison detune (detune amount is modulated via LFO1). Macro buttons 1/2 are assigned to dual delay mix (2 delays in serial)/reverb mix.
Steel String Duet	Two re-synthesized/wave-tabled steel string samples with several accents, control WT scanning speed with M1, auto-panning in AMP1/2 via LFO1. MW controls unison mix/detune amount, AT adds vibrato, M2 controls volume of the sub-octaves in each oscillator (voicing section), M3 introduces LP filter modulation via re-triggering LFO2. MB1/2 are assigned to delay/chorus FX mix (in FX1).

Synth	Comments / Controller Assignments
Aspect Eight	OSC1/2 use a WT with 8 morphing electronic waveforms, playing forward in OSC1 and reversed in OSC2, in addition to the WT envelopes LFO3 modulates WT position, each oscillator has it's own amplifier panned L-R, LFO3/4 control amount of vibrato (alternatively), LFO2 modulates fine-tuning in OSC2 for detune effects. OSC3 (use M1 for volume control) routed to AMP3 with auto-panning via MOD ENV1 adds a pulsating tone with X-Side/Formant and FM modulation via LFO3/4. M2 introduces LP filter cutoff/resonance modulation for OSC1/2 in F1 via MOD ENV2, M3 controls chorus mix in FX1 (processing OSC1/2). MB1 engages a pitch sequence via STP SQ1, MB controls reverb mix in MASTER FX. MW adds FM, modulates X-Side and adds tempo-synced Formant-modulation via LFO1 for OSC1/2 and adds Rate-distortion in OSC3.
Car Wash	Wavetable synth with cross FM and plenty of tempo-synced modulations. MW adds two voices, one with detune modulation (MOD ENV3), the other one playing +1 octave higher, both those voices have pan modulation applied (in opposite directions). M1 adds cross FM, M2 adds more amplitude modulation and adds tempo-synced filter modulation, M3 introduces modulation of the X-Cite parameter via LFO2. MB1/2 switch on/off delay/reverb FX.
Electrons used in this video	A WT with electronic waveforms is used in OSC1/2 scanning the table in opposite directions, use M1 to slow down the scanning speed and decrease speed of fine-tune modulation in OSC2 via LFO1. OSC3 adds an FFT/BIN sound, spectral sweeping modulated by MOD ENV1. AT adds vibrato, MW adds Formant/X-Side modulation via LFO2 in OSC1/2, adds FM in OSC2/3, adds Rate-distortion in and increases volume of OSC2 and reduces LP cutoff in F1 (processing OSC2/3, OSC1 is routed only to F2). M2 increases attack/release time, decreases sustain level and eliminates spike, M3 introduces tempo-synced amplitude and filter modulation via random LFO4 and MOD ENV2.
Head Driller	Two single cycle waveforms/shapes mapped across the keyboard with crossfade split between C3 – C4 (C2 – C3 in Avenger), MOD ENV1 modulates LP cutoff in F1, FM amount in OSC1 and Formant/X-Side in OSC2. MW increases unison mix and adds detune modulation via LFO1, M1 adds a sub-octave in each oscillator (Voicing-section), M2 introduces tempo-synced filter animation via LFO2/3 and a stereo gate sequence (STP SQ1), M3 adds notch-filter modulation in F2, pan modulation via LFO3 and controls phaser FX mix, MB1/2 control delay/reverb mix.
Hypno Partials used in this audio demo	FFT/BIN in OSC1 meets shifting harmonics in OSC2, tempo-synced MOD ENV2 modulates amplitude and MOD ENV1 shifts the partials modulates SYNC in OSC2. LFO2 modulates Spectral Flip and vibrato speed, LFO1 modulates Formant, LFO3 spectral lowpass in OSC1, check the mod matrix for more modulations. VEL decreases attack time, M1 controls unison mix and introduces detune modulation in OSC1 via LFO1. M2 adds FM (with tempo-synced Rate modulation), M3 controls volume of OSC2. MW adds tempo-synced LP filter modulation and SYNC modulation in OSC1 via LFO4. Each oscillators has it's dedicated FX bus, MB1 controls reverb mix in MASTER FX.
Partial Music	OSC1 uses a WT with even harmonics, OSC2 uses a WT with an overtone melody, both WT envelopes are tempo-synced, LFO1 modulates detune in both oscillators and unison mix in OSC2. MW adds FM with tempo-synced Rate-modulation (MOD ENV1) in OSC1 and SYNC-modulation (LFO3) in both oscillators. M1 introduces velocity-controlled LP cutoff/resonance modulation via tempo-synced LFO1, M2 increases attack/release time and decreases sustain level, M3 controls flanger mix (FX1), MB1/2 control delay/reverb mix (MASTER FX).
Rich And Sexy	WT with 8 morphing digital waveforms, playing reversed in OSC2 (routed to the modulated HP filter in F2 and AMP2 with auto-panning via LFO4), increase WT scanning speed with M1. MOD ENV1 modulates unison detune and HP filter cutoff in F2 - M1 also increases the speed of this envelope. MW adds FM, Formant modulation via LFO1, shifts X-Mid in OSC2 and introduces LP cutoff/drive modulation via LFO2, M2 introduces tempo-synced amplitude modulation via MOD ENV2

Synth	Comments / Controller Assignments
Sine Swirler	Two wavetables with overtone melodies in two oscillators, MW introduces X-Mid/pan modulation via tempo-synced, re-triggering LFO1 in opposite directions in AMP1/2. M1 increases attack/release time in both amplifiers, M2 introduces tempo-synced modulation of FM and HP filter cutoff/resonance, M3 adds tempo-synced SYNC modulation in both oscillators and amplitude modulation in OSC2 (triplet-based via LFO3/4). MB1 controls chorus mix (FX1), MB2 controls delay/reverb mix.
Three Shuttles	SciFi synth - WT synth in OSC1, single cycle shape in OSC2 (fades out towards the top end, auto-panning via LFO3 in AMP2) - both with counter-SYNC modulation via LFO1 (increase LFO speed with AT), OSC1 also has Formant modulation applied via LFO2, modulation depth controlled by LFO1. OSC3 adds a noise oscillator routed to the modulated BP filter in F2, auto-panning in AMP3 via LFO2, control volume of OSC3 with M2. MW shifts X-Mid in OSC1/2, shifts Formant/adds Rate distortion/FM in OSC2, M1 adds LP filter modulation via LFO1/4 and wave-shaper distortion (frequency boost follows key), M3 controls delay mix, MB1 controls reverb mix, MB2 increases release time in all 3 amplifiers.
Two Meets Three featured in this audio demo	Two oscillators with moving harmonics (FFT/Harmonic), amplitude modulation in OSC1 set to 1/4 - to 1/4 triplets in OSC2, each oscillators has it's own amplifier with inverted auto-panning (LFO3), MOD ENV2 modulates unison mix in OSC2. MW adds wave-shaper-distortion (high frequency band modulated via LFO3) and FM, FM Rate in OSC1/2 modulated via STP SQ1/2 set to 1/8 - 1/8 triplets. M1 introduces LP filter cutoff/drive modulation via MOD ENV1, M2 controls ROTARY mix, M3 controls delay/reverb mix. MB1 switches rotary speed to fast, MB2 controls MULTIMOD mix.
UnPredicTable	Four wavetables in four oscillators with randomized WT positions for each note played (via Increment/Radom), M1 introduces randomization of timbre via LFO2/3 for each note played, fine-tuning in OSC2/4 is alternated (in opposite directions). MB1 increases release time and decreases speed in the release phase of MOD ENV1 which modulates the HP filter in F1. M2 introduces randomization of LP filter cutoff/resonance in F2 (via Random/LFO3), M3 adds vibrato, vibrato speed is slightly randomized with each note played., MB2 controls reverb/delay mix, MW adds FM.

Vocal	Comments / Controller Assignments
Male Vox Vowel Trans 01 featured in this video	Five re-synthesized male vocal samples with vowel transitions in 5 oscillators. MW controls unison detune/mix, AT adds vibrato, M1 controls formant position (full range), M2 engages FM and shifts X-Side (different for each oscillator), M3 controls WT scanning speed, MB1 engages dual filter modulation (LP/Notch -> LFO1-3) MB2 engages tempo-synced stereo gate (STP SQ1) and sync animation (LFO4). Polyphony is set to 16 voices, each note played uses 5 voices.
Male Vox Vowel Trans 02	Three re-synthesized male vocal samples with vowel transitions in 3 oscillators, control WT scanning speed with M3. OSC2/3 are processed by F3 which has tempo-synced, random modulation via LFO3, OSC2/3 also have their dedicated amplifiers with individual auto-panning (LFO3/4). MW controls unison detune/mix, AT decreases LP cutoff/increases filter drive in the FX1 filter, M1 modulates Formant and adds Bit-distortion, M2 adds FM (with different Rate-intervals per oscillator) and decreases LP cutoff in F2, MB1/2 control reverb (MASTER FX) / delay (FX1) mix.
Spectral Overtones	Re-synthesized male vocal overtone melodies, two WTs in two oscillators routed to F1 (LP modulated by LFO4 for cutoff /MOD ENV1 for resonance) -> F2 (notch filter), each oscillator has it's dedicated amplifier with inverted auto-panning (LFO1). Control WT scanning speed with M2, MW adds FM (Rate modulation in OSC1 via re-triggering LFO2), M1 introduces tempo-synced Formant modulation (via unipolar, re-triggering LFO3), M3 modulates X-Side and adds wave-shaper distortion. MB1 engages MULTIMOD (FX1), MB2 controls delay/reverb mix.

Vocal	Comments / Controller Assignments
Trapped	Two WTs extracted from vocal textures in two oscillators processed by a talking filter with tempo-synced modulations for Formant (MOD ENV1/LFO2) and filter cutoff (LFO1) and vowel (STP SQ1), OSC2 is using a gate sequence (STP SQ2). MW adds wave-shaper distortion and introduces tempo-synced LP cutoff/resonance modulation (LFO2), M1 controls detune amount in OSC1, detune in OSC2 is modulated by LFO4, M2 adds a sub-octave in each oscillator (Voicing-section).
Vocoder Pad	Two WT oscillators using re-synthesized vocoder/vocal sounds, MW introduces tempo-synced modulations of amplitude/X-Side/Formant, M1 adds FFT partial modulation, M2 controls chorus mix, M3 adds tempo-synced, re-triggering LP filter modulation. MB1/2 engage delay/reverb FX.
Vocodesque	WT extracted from a vocoder sample, MW totally transforms the timbre (by shifting X-Side) and reveals the original wavetable sound, AT increases detune and adds vibrato. M1 introduces wave-shaper distortion, tempo-synced Formant modulation via STP SQ1 and amplitude modulation (via MOD ENV1), M2 controls LP cutoff (F2),
VoiceQuencer used in this video	Big vocal sequencer using a re-synthesized male vowel sound, the WT envelope is running in tempo-synced mode and is also modulating Formant, X-Side is modulated by tempo-synced LFO1. M1 controls volume of the sub-octave (Voicing-section), M2 adds SYNC-modulation via LFO3, M3 introduces a tempo-synced gate sequence (STP SQ1), the GATE parameter is modulated by LFO2. MB1 adds distortion FX (FX1), MB2 controls delay mix. MW adds tempo-synced LP filter modulation via MOD ENV1.

Please enjoy the sounds!
Simon Stockhausen, April 12th - 2019